

1/59

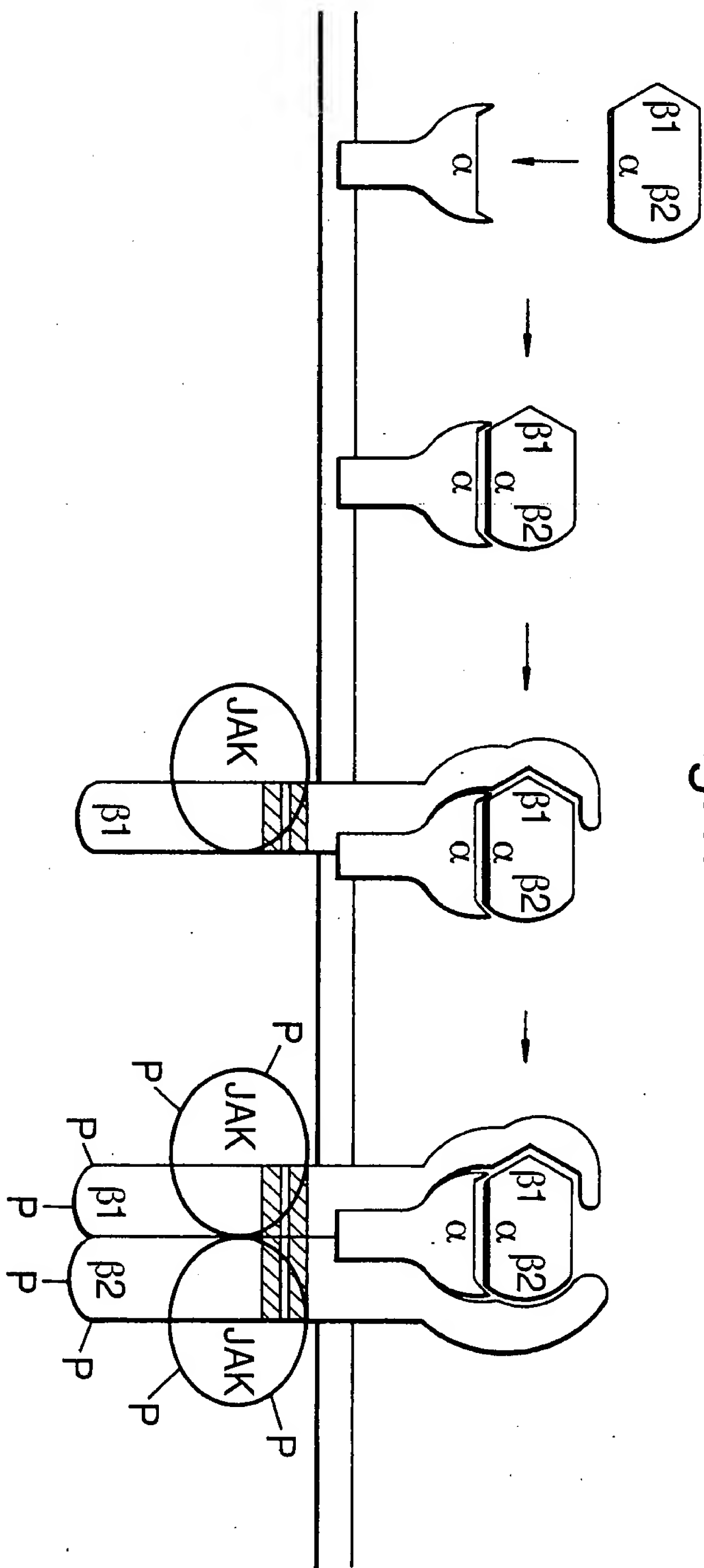


Fig. 1.

2/59

Fig.2.

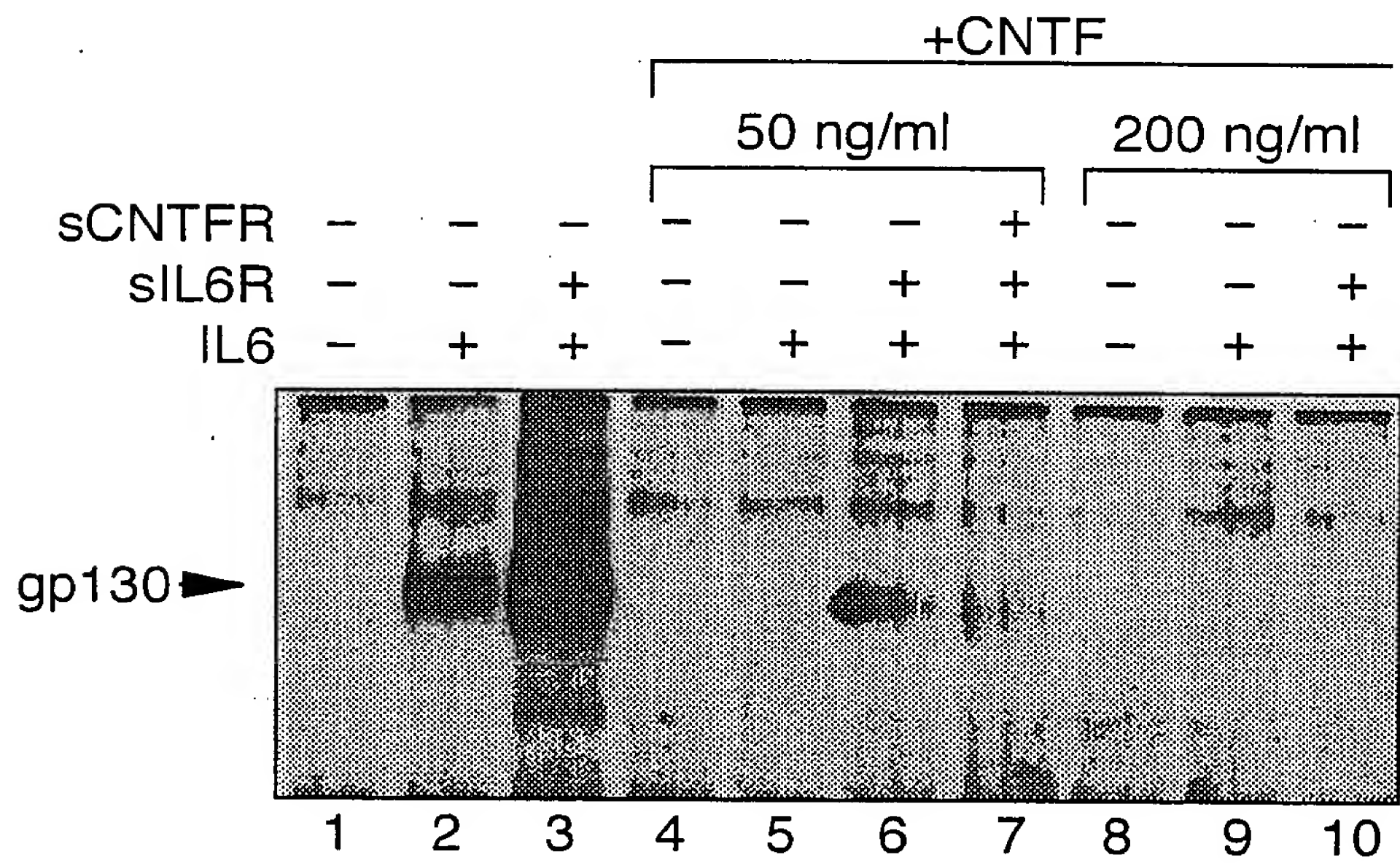
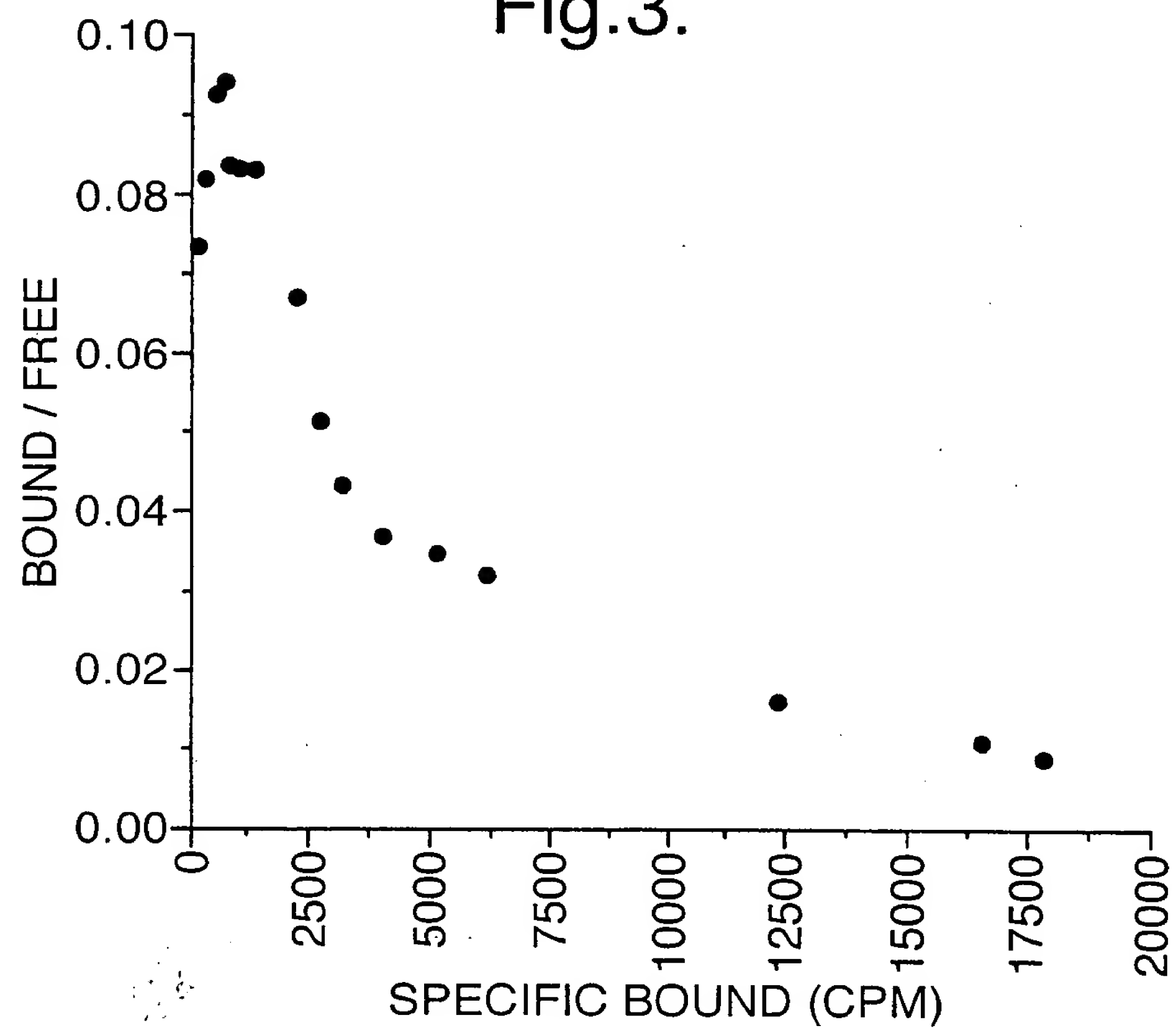


Fig.3.



3/59

Fig. 4A

Amino acid sequence of human gp130-Fc-His6

Sequence Range: 1 to 861

10 *	20 *	30 *	40 *	50 *	60 *
MVTLQTWVVQALFIFLT	TES	TGELLDPCGYISPES	PVVQL	HSNFTAVCVLKEKCM	DYFHV
70 *	80 *	90 *	100 *	110 *	120 *
NANYIVWKTNHFTIPKE	QYT	IINRTASSVTFTDIAS	LNIQ	LTCNILTFGQLEQN	VYGITI
130 *	140 *	150 *	160 *	170 *	180 *
ISGLPPEKPKNLSCIVNE	GK	KMRCEWDGGRETHLET	NFTL	KSEWATHKFADCKAKR	DTPT
190 *	200 *	210 *	220 *	230 *	240 *
SCTVDYSTVYFVNIEVW	VEA	ENALGKVTSDHINFDP	VYKV	KPNPPHNLSVINSEEL	SSIL
250 *	260 *	270 *	280 *	290 *	300 *
KLTWTNPSIKSVIILKY	NIQ	YRTKDASTWSQIPPED	TAST	RSSFTVQDLKPFTEY	VFRIR
310 *	320 *	330 *	340 *	350 *	360 *
CMKEDGKGYWSDWSEEAS	GI	TYEDRPSKAPSFWKID	PSH	TQGYRTVQLVWKTLP	PFEAN
370 *	380 *	390 *	400 *	410 *	420 *
GKILDYEVTLTRWKSHLQ	NY	TVNATKLTVNLTNDRY	LATL	TVRNLVGKSDAAVLT	IPACD
430 *	440 *	450 *	460 *	470 *	480 *
FQATHPVMDLKAFPKDN	MLW	VEWTTPRESVKKYILE	WCVL	SDKAPCITDWQQEDG	TVHRT
490 *	500 *	510 *	520 *	530 *	540 *
YLRGNLAESKCYLITVTP	VY	ADGPGSPESIKAYLKQ	APPS	KGPTVRTKKVGKNEA	VLEWD
550 *	560 *	570 *	580 *	590 *	600 *
QLPVDVQNGFIRNYTIF	YRT	IIGNETAVNVDSSTHT	EYTLS	SLTSDTLYMVRMAAY	TDEGG
610 *	620 *	630 * † †	640 *	650 *	660 *
KDGPEFTFTTPKFAQGE	IES	<u>GEPKSCDKTHTCP</u>	<u>PCPAPEL</u>	<u>LGGPSVFLFPKPKD</u>	<u>TLMIS</u>
670 *	680 *	690 *	700 *	710 *	720 *
<u>RTPEVTCVVVDVSHED</u>	<u>PEVK</u>	<u>FNWYVDGVEVHNA</u>	<u>KT</u>	<u>KPREE</u>	<u>OYNSTYRVVSVLT</u>
730 *	740 *	750 *	760 *	770 *	780 *

Fig. 4B

NGKEYKCKVSNKALPAPIEK TISKAKGOPREPOVYTLPPS RDELTKNOVSLTCLVKGEYP
790 800 810 820 830 840
* * * * *
SDIAVEWESNGOPENNYKTT PPVLDSGDGSFFLYSKLTVDK SRWOOGNVFSCSVMHEALHN
850 860
* *
HYTOKSLSLSPGKHHHHH•

Fig.5.

The amino acid sequence of human IL-6R α -Fc

Sequence Range: 1 to 594

10 20 30 40 50 60
* * * * *
MVAVGCALLAALLAAPGAAL APRRCPAQEVARGVLTSLPG DSVTLTCPGVEPEDNATVHW
70 80 90 100 110 120
* * * * *
VLRKPAAGSHPSRWAGMGR LLLRSVQLHDSGNYSYRAG RPAGTVHLLVDVPPEEPQLS
130 140 150 160 170 180
* * * * *
CFRKSPLSNVVCEWGPRSTP SLTTKAVLLVRKFQNSPAED FQEPQYSQESQKFSCQLAV
190 200 210 220 230 240
* * * * *
PEGDSSFYIVSMCVASSVGS KFSKTQTFQCGILQPDPPA NITVTAVARNPRWLSVTWQD
250 260 270 280 290 300
* * * * *
PHSWNSSFYRLRFELRYRAE RSKTFTTWMVKDLQHHCVIH DAWGSLRHVVQLRAQEEFGQ
310 320 330 340 350 360
* * * * *
GEWSEWSPEAMGTPWTESRS PPAENEVSTPMQALTTNKDD DNILFRDSANATSLPVQDAG
370 380 390 400 410 420
* † † * * *
EPKSCDKTHTCPPCPAPELL GGPSVFLFPPKPKDTLMISR TPEVTCVVVDVSHEDPEVKF
430 440 450 460 470 480
* * * * *
NWYVDGVEVHNAKTKPREEO YNSTYRVVSVLTVLHODWLN GKEYKCKVSNKALPAPIEKT
490 500 510 520 530 540
* * * * *
ISKAKGOPREPOVYTLPPSR DELTKNOVSLTCLVKGEYPS DIAVEWESNGOPENNYKTTT
550 560 570 580 590
* * * * *
PVLDSGDGSFFLYSKLTVDKS RWOOGNVFSCSVMHEALHNH' YTOKSLSLSPGK•

5/59

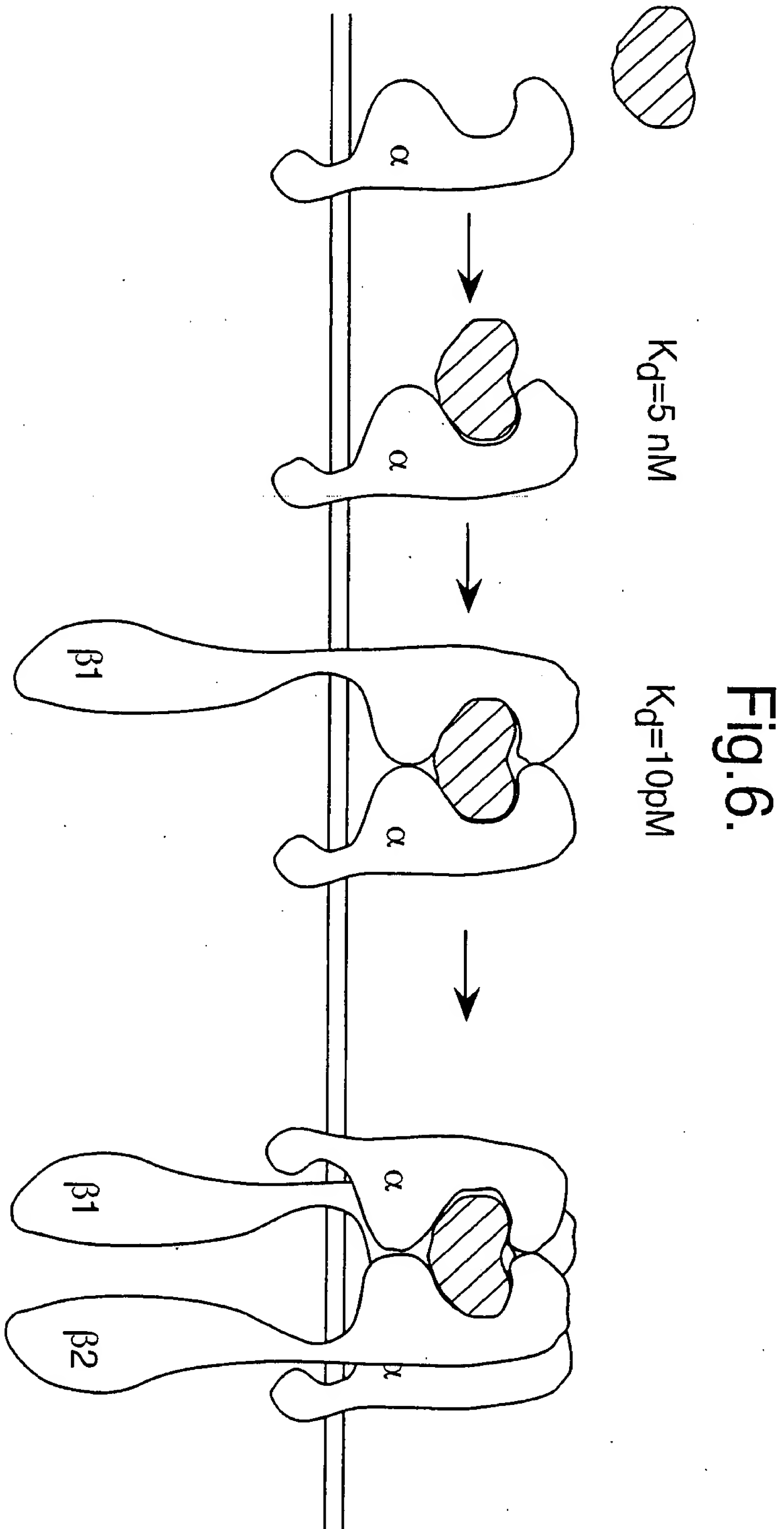
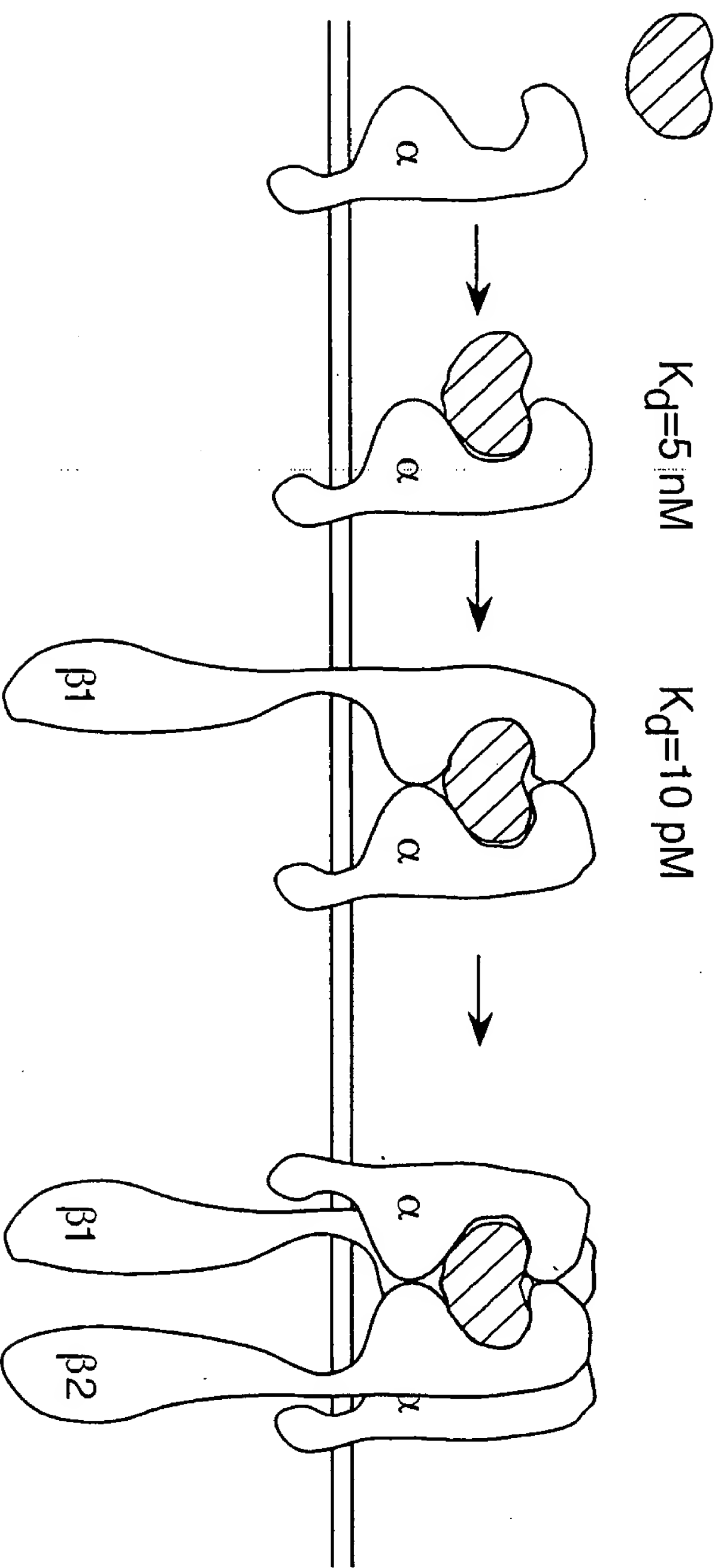
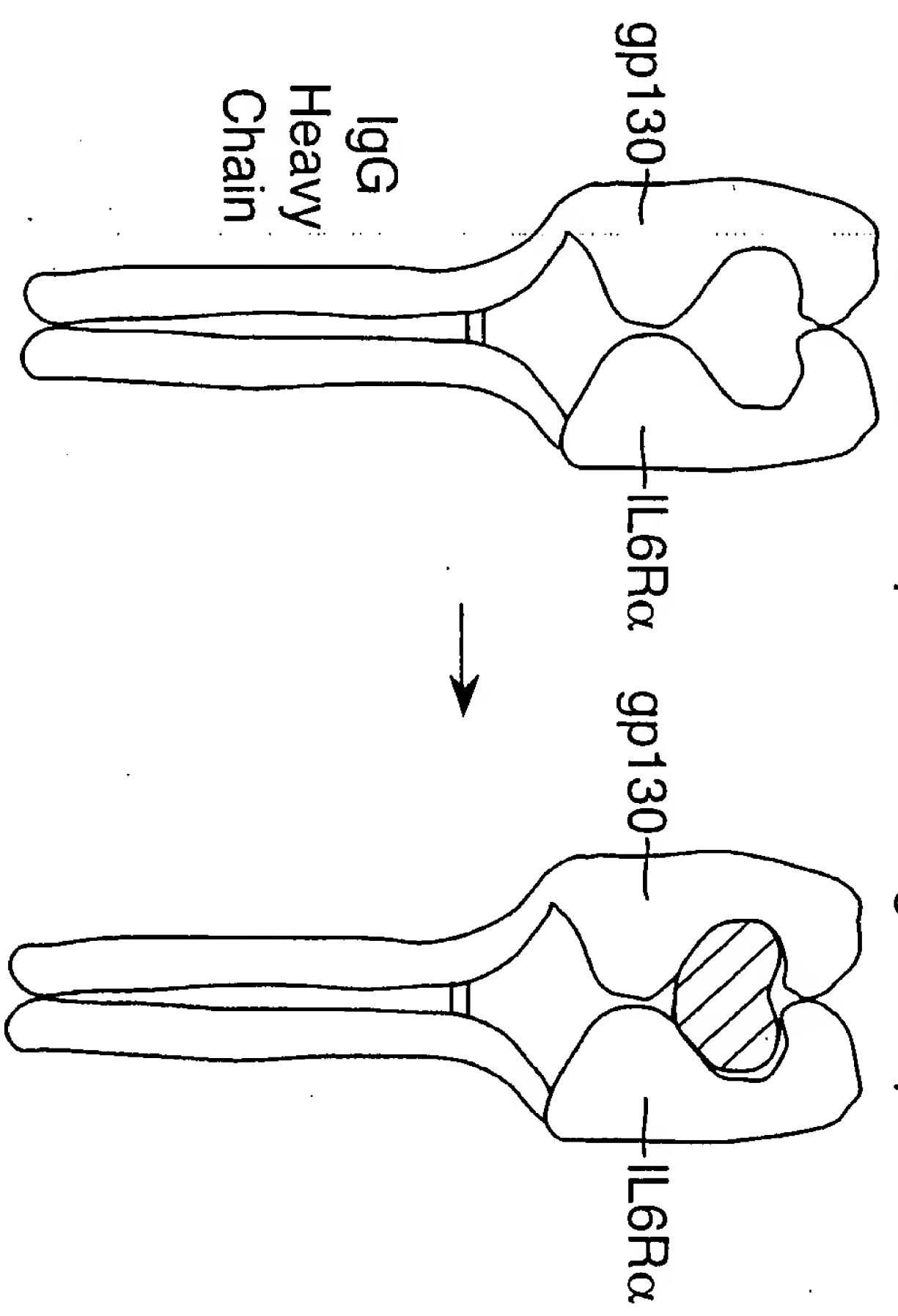


Fig. 7.

Heterodimeric Receptor- Based ligand trap

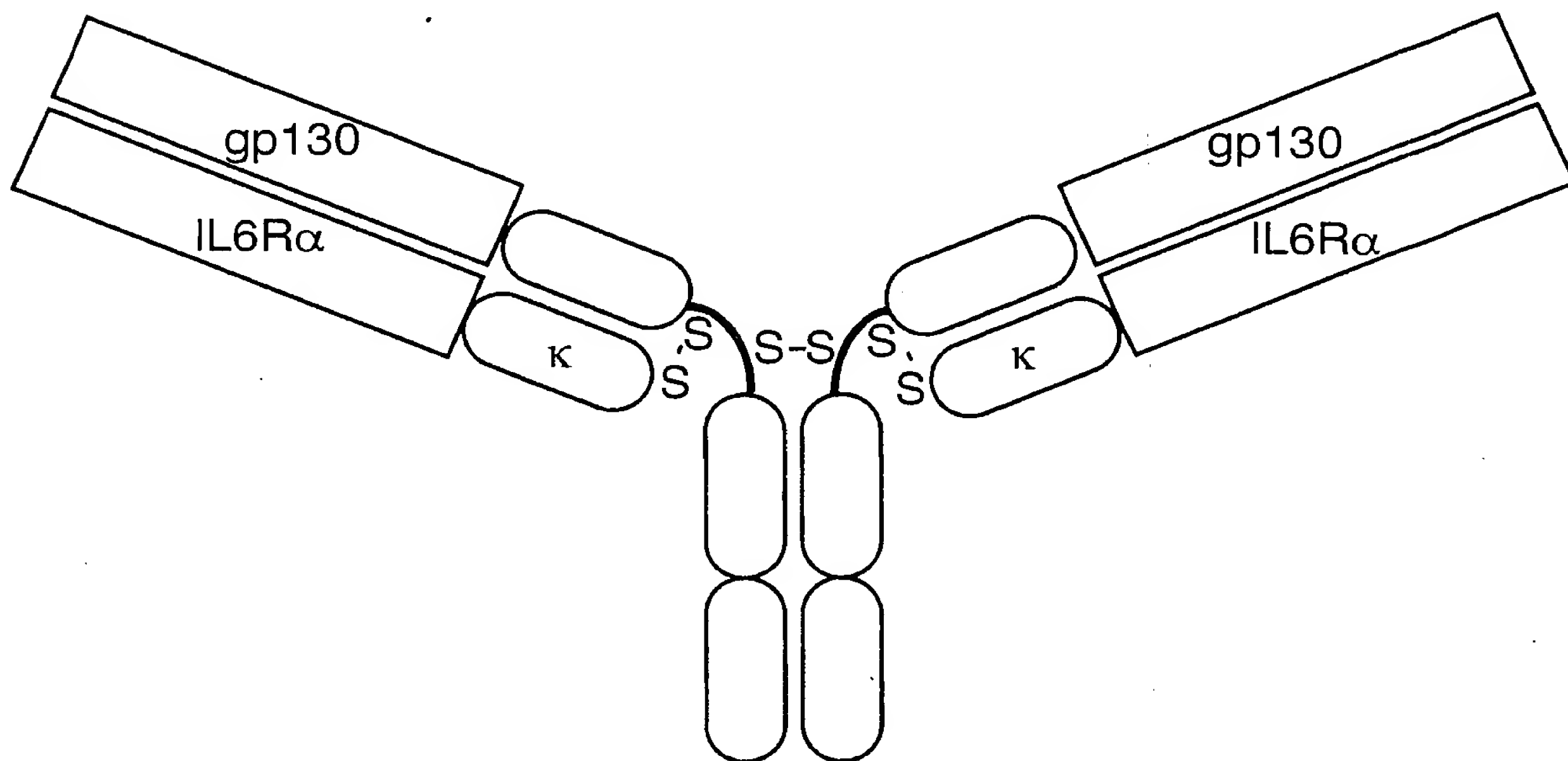


7/59



Fig.8.

Immunoglobulin Heavy/Light Chain receptor Fusions



8/59

Fig. 9A

Amino acid sequence of gp130-Cy1

Sequence Range: 1 to 952

10 *	20 *	30 *	40 *	50 *	60 *
MVTLQTWVVQALFIFLTES	TGELLDP	CGYISP	ESPVVQL	HSNFTA	VCVLKEKCMDYFHV
70 *	80 *	90 *	100 *	110 *	120 *
NANYIVWKTNHFTIPKEQYT	IINRTAS	SVTFTD	IASLNIQ	LTCNILT	FGQLEQNVYGITI
130 *	140 *	150 *	160 *	170 *	180 *
ISGLPPEKPKNLSCIVNEGK	KMRCEWD	GGRETH	LETNFTL	KSEWATH	KFADCKAKRDTPT
190 *	200 *	210 *	220 *	230 *	240 *
SCTVDYSTVYFVNIEVWVEA	ENALGKV	TSDHIN	FDPVYKV	KPNPPHN	LSVINSEELSSIL
250 *	260 *	270 *	280 *	290 *	300 *
KLTWTNPSIKSVIILKYNIQ	YRTKDAS	TWSQIP	PEDTAST	RSSFTVQ	DLKPFTEYVFRIR
310 *	320 *	330 *	340 *	350 *	360 *
CMKEDGKGYWSDWSEEASGI	TYEDRPS	KAPSFW	KIDPSH	TQGYRTV	QQLVWKTLPPEAN
370 *	380 *	390 *	400 *	410 *	420 *
GKILDYEVTLTRWKSHLQNY	TVNATKL	TVNLTN	DRYLATL	TVRNLVG	KSDAAVLTIPACD
430 *	440 *	450 *	460 *	470 *	480 *
FQATHPVMDLKAFFPKDNMLW	VEWTTPR	ESVKKY	ILEWCVL	SDKAPCI	TDWQQEDGTVHRT
490 *	500 *	510 *	520 *	530 *	540 *
YLRGNLAESKCYLITVTPVY	ADGPGSP	ESIKAY	LKQAPPS	KGPTVRT	KKVGKNEAVLEWD
550 *	560 *	570 *	580 *	590 *	600 *
QLPVDVQNGFIRNYTIFYRT	IIGNETA	VNVDS	SSTHTLS	SLTSDTL	YMRMAAYTDEGG
610 *	620 *	630 *	640 *	650 *	660 *
KDGPEFTFTTPKFAQGEIES	GASTKG	PSVFPL	APSSKSTS	GGTAALG	CLVKDYFPEPVTV
670 *	680 *	690 *	700 *	710 *	720 *
SWNSGALTSGVHTFPAVLOS	SGLYSL	SSVVT	VPSSSLGTO	TYICNVN	HKPSNTKVDKKVE
730 *	740 *	750 *	760 *	770 *	780 *
PKSCDKTHTCPCPAPELLG	GPSVFL	FPPKPK	DTLMISRT	PEVTCVV	VDVSHEDPEVKFN

9/59

Fig. 9B

790	800	810	820	830	840
*	*	*	*	*	*
<u>WYVDGVEVHNAKTKPREEOY NSTYRVVSVLTVLHODWLNG KEYKCKVSNKALPAPIEKTI</u>					
850	860	870	880	890	900
*	*	*	*	*	*
<u>SKAKGOPREPOVYTLPPSRD ELTKNOVSLTCLVKGFYPSD IAVEWESNGOPENNYKTPP</u>					
910	920	930	940	950	
*	*	*	*	*	
<u>VLDSGDGSFFLYSKLTVDKSR WOOGNVFSCSVMHEALHNHY TOKSLSLSPGK*</u>					

Fig.10.

Amino acid sequence of gp130 Δ 3fibro

Sequence Range: 1 to 332

10	20	30	40	50	60
*	*	*	*	*	*
MVTLQTWVQALFIFLTES TGELLDPCGYISPESPVVQL HSNFTAVCVLKEKCMDYFHV					
70	80	90	100	110	120
*	*	*	*	*	*
NANYIVWKTNHFTIPKEQYT IINRTASSVTFTDIASLNIQ LTCNILTFGQLEQNVYGITI					
130	140	150	160	170	180
*	*	*	*	*	*
ISGLPPEKPKNLSCIVNEGK KMRCEWDGGRETHLETNFTL KSEWATHKFADCKAKRDTPT					
190	200	210	220	230	240
*	*	*	*	*	*
SCTVDYSTVYFVNIEVWVEA ENALGKVTS DHINFDPVYKV KPNPPHNLSVINSEELSSIL					
250	260	270	280	290	300
*	*	*	*	*	*
KLTWTNPSIKSVIILKYNIQ YRTKDASTWSQIPPEDTAST RSSFTVQDLKPFTEYVFRIR					
310	320	330			
*	*	*			
CMKEDGKGYWSDWSEEASGI TYEDRPSKAPSG					

10/59

Fig.11.

Amino acid sequence of J-CH1

Sequence Range: 1 to 121

10	20	30	40	50	60
*	*	*	*	*	*
<u>SGGQGT LVT VSSASTKGPSV FPLAPSSKSTSGGTAALGCL VKDYFPEPVT VSWNSGALTS</u>					
70	80	90	100	110	120
*	*	*	*	*	*
<u>GVHTFPAVLOSSGLYSLSSV VTFPSSSLGTOTYICNVNHK PSNTKVDKKVEPKSCDKTHT*</u>					

Fig.12.

Amino acid sequence of Cy4

Sequence Range: 1 to 330

10	20	30	40	50	60
*	*	*	*	*	*
SGASTKGPSVFPLAPCSRST SESTAALGCLVKDYFPEPVT VSWNSGALTSGVHTFPAVLQ					
70	80	90	100	110	120
*	*	*	*	*	*
SSGLYSLSSVVTFPSSSLGT KTYTCNV DHKPSNTKVDKRV ESKYGPPCPSCPAPEFLGGP					
130	140	150	160	170	180
*	*	*	*	*	*
SVFLFPPKPKDTLMISRTPE VTCVVVDVSQEDPEVQFNWY VDGVEVHNAKTKPREEQFN					
190	200	210	220	230	240
*	*	*	*	*	*
TYRVVSVLTVLHQDWLNGKE YKCKVSNKGLPSSIEKTISK AKGQPREPQVYTLPPSQEEM					
250	260	270	280	290	300
*	*	*	*	*	*
TKNQVSLTCLVKGFYPSDIA VEWESNGQPENNYKTTPVL DSDGSFFLYSRLTVDKSRWQ					
310	320	330			
*	*	*			
EGNVFSCSVMHEALHNHYTQ KSLSLSLGK*					

11/59

Fig.13.

Amino acid sequence of κ -domain

Sequence Range: 1 to 108

10	20	30	40	50	60
*	*	*	*	*	*
SGTVAAPSVFIFPPSDEQLK	SGTASVVCLLNNFYPREAKV	QWKVDNALQSGNSQESVTEQ			
70	80	90	100		
*	*	*	*		
DSKDSTYSLSSTLTLSKADY	EKKVYACEVTHQGLSSPVT	KSFNRGEC*			

Fig.14.

Amino acid sequence of λ -domain:

Sequence Range: 1 to 107

10	20	30	40	50	60
*	*	*	*	*	*
SGPKAAPSVTLFPPSSEELQ	ANKATLVCLISDFYPGAVTV	AWKADSSPVKAGVETTTPSK			
70	80	90	100		
*	*	*	*		
QSNKYAASSYLSLTPEQWK	SHRSYSCQVTHEGSTVEKTV	APTECS*			

12/59

Fig.15.

Amino acid sequence of the soluble IL-6R α domain

Sequence Range: 1 to 360

10	20	30	40	50	60
*	*	*	*	*	*
MVAVGCALLAALLAAPGAAL	APRRCPAQEVARGVLTSLPG	DSVTLTCPGVEPEDNATVHW			
70	80	90	100	110	120
*	*	*	*	*	*
VLRKPAAGSHPSRWAGMGRR	LLLRSVQLHDSGNYSCYRAG	RPAGTVHLLVDVPPEEPQLS			
130	140	150	160	170	180
*	*	*	*	*	*
CFRKSPLSNVVCEWGPRSTP	SLTTKAVLLVRKFQNSPAED	FQEPQCQYSQESQKFSCQLAV			
190	200	210	220	230	240
*	*	*	*	*	*
PEGDSSFYIVSMCVASSVGS	KFSKTQTFQGCILQPDPPA	NITVTAVARNPRWLSVTWQD			
250	260	270	280	290	300
*	*	*	*	*	*
PHSWNSSFYRLRFELRYRAE	RSKTFTTWMVKDLQHHCVIH	DAWSGLRHVVQLRAQE EFGQ			
310	320	330	340	350	360
*	*	*	*	*	*
GEWSEWSPEAMGTPWTESRS	PPAENEVSTPMQALTTNKDD	DNILFRDSANATSLPVQDAG			

Fig.16.

Amino acid sequence of the soluble IL-6k α 313 domain

Sequence Range: 1 to 315

10	20	30	40	50	60
*	*	*	*	*	*
MVAVGCALLAALLAAPGAAL	APRRCPAQEVARGVLTSLPG	DSVTLTCPGVEPEDNATVHW			
70	80	90	100	110	120
*	*	*	*	*	*
VLRKPAAGSHPSRWAGMGRR	LLLRSVQLHDSGNYSCYRAG	RPAGTVHLLVDVPPEEPQLS			
130	140	150	160	170	180
*	*	*	*	*	*
CFRKSPLSNVVCEWGPRSTP	SLTTKAVLLVRKFQNSPAED	FQEPQCQYSQESQKFSCQLAV			
190	200	210	220	230	240
*	*	*	*	*	*
PEGDSSFYIVSMCVASSVGS	KFSKTQTFQGCILQPDPPA	NITVTAVARNPRWLSVTWQD			
250	260	270	280	290	300
*	*	*	*	*	*
PHSWNSSFYRLRFELRYRAE	RSKTFTTWMVKDLQHHCVIH	DAWSGLRHVVQLRAQE EFGQ			
310					
*					
GEWSEWSPEAMGTTG					

13/59

Fig.17.

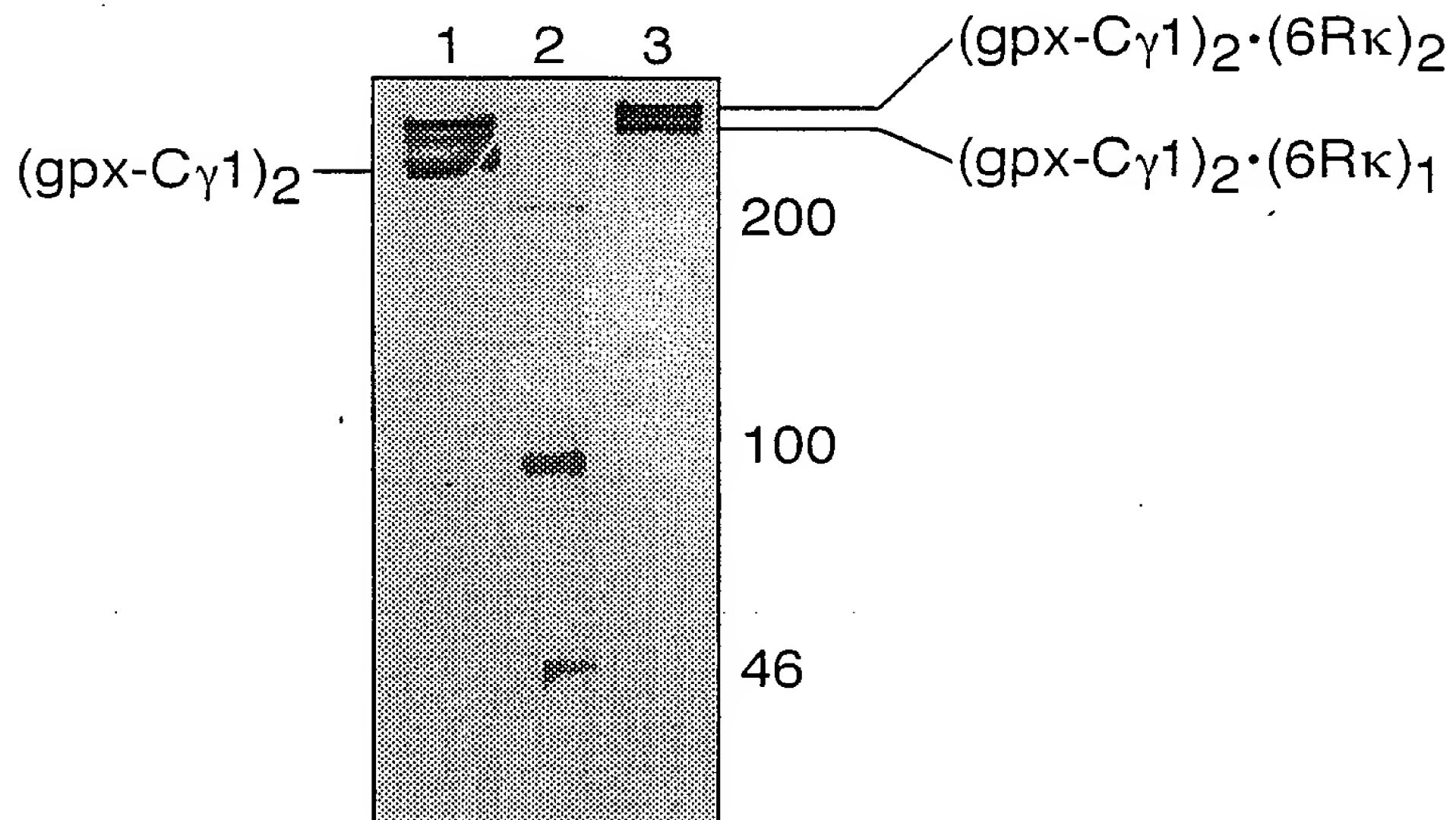
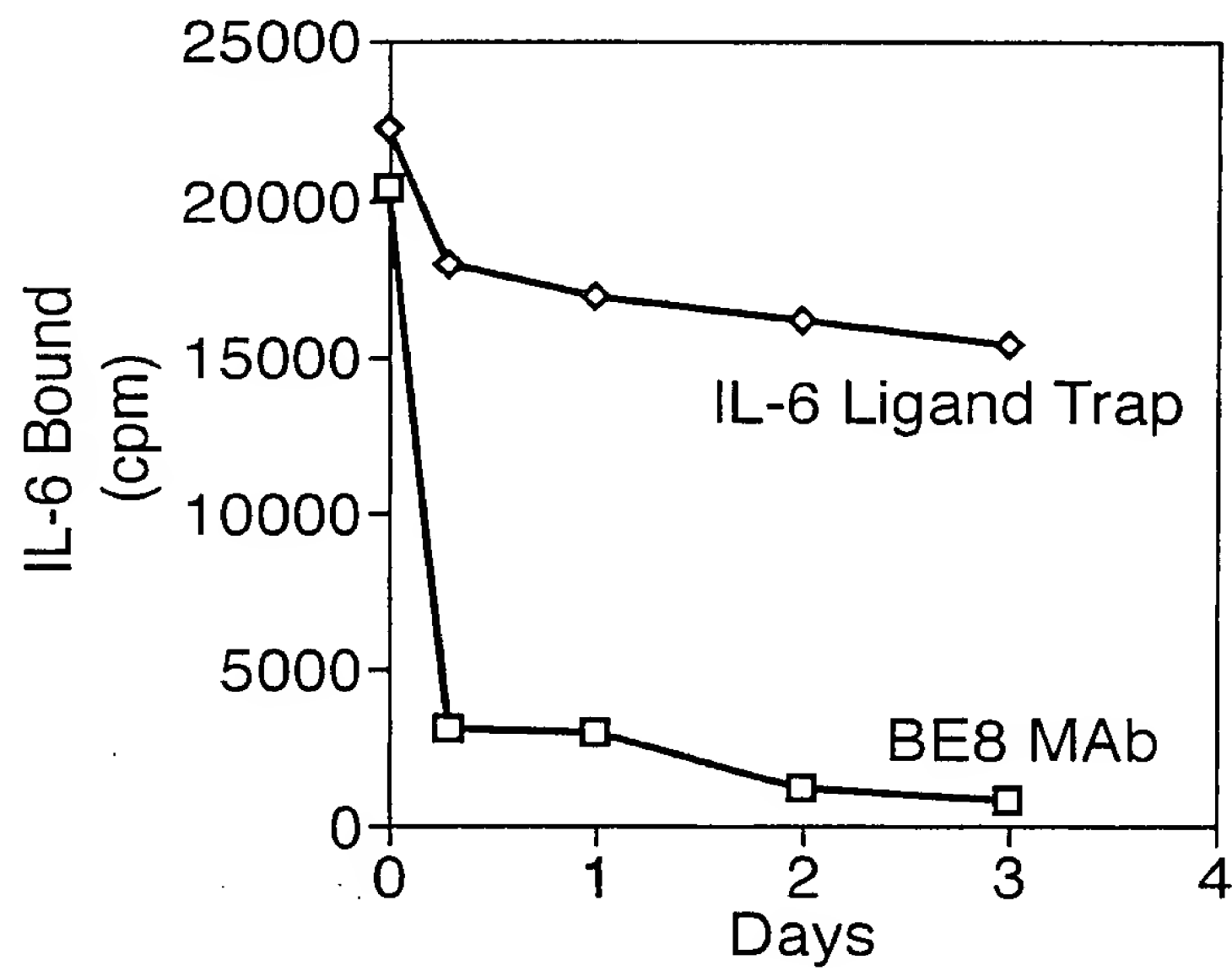


Fig.18.

IL-6 Dissociates Slowly from the Ligand Trap



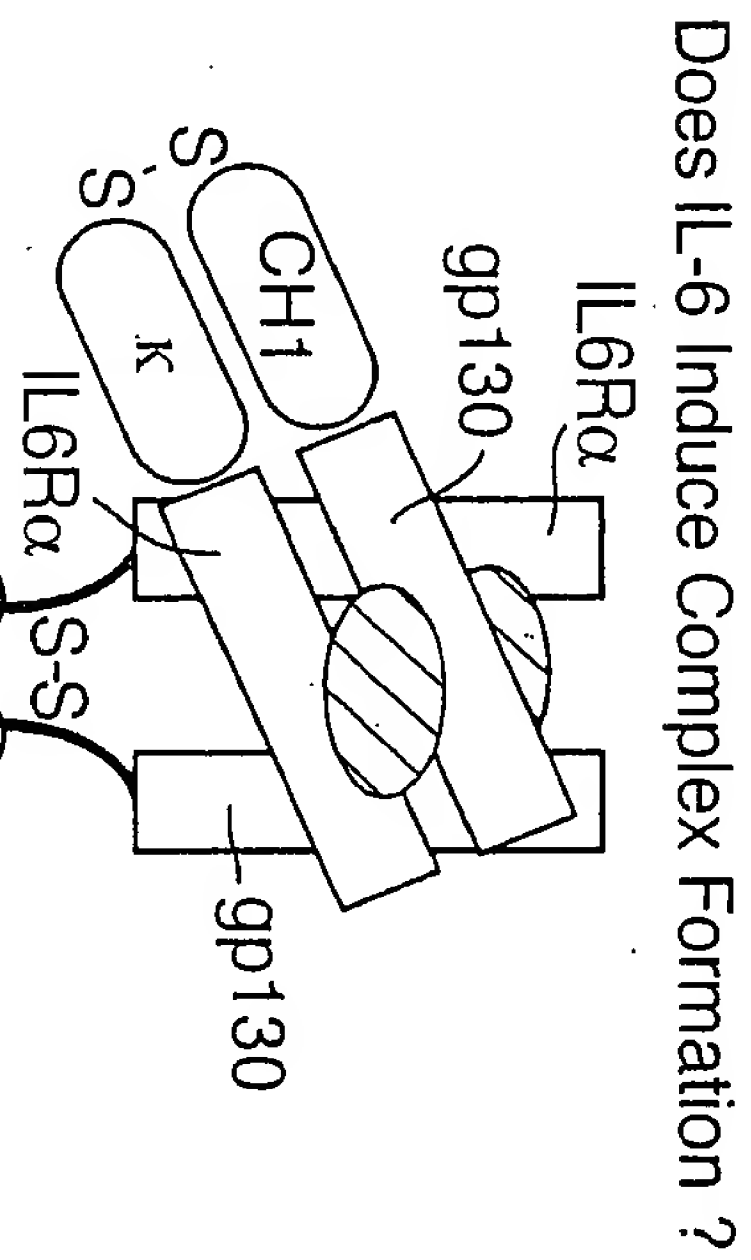
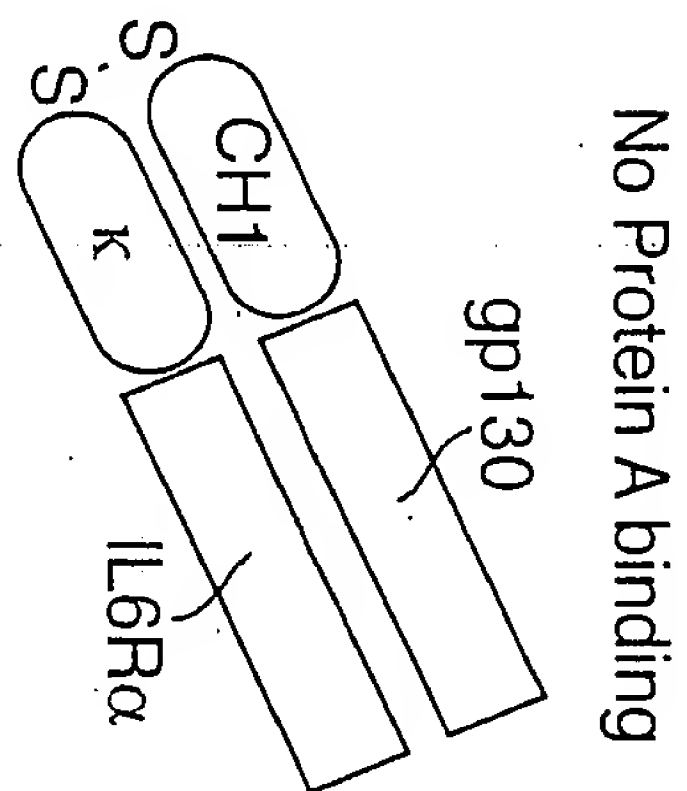
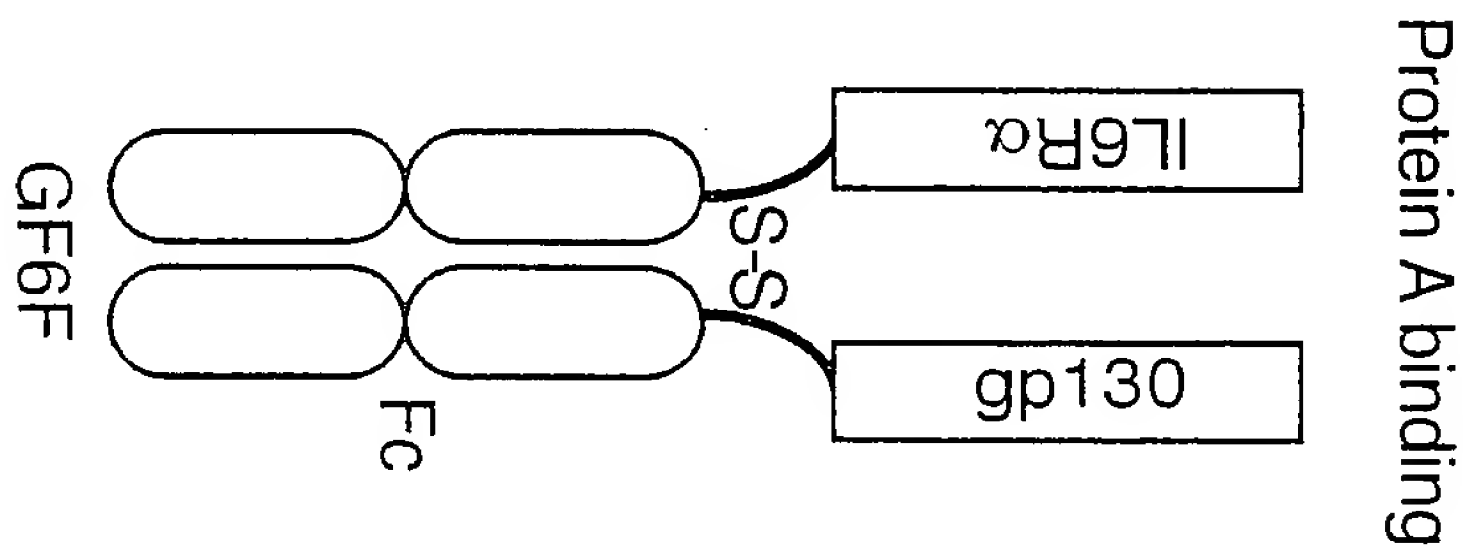


Fig. 19A

Fig. 19B

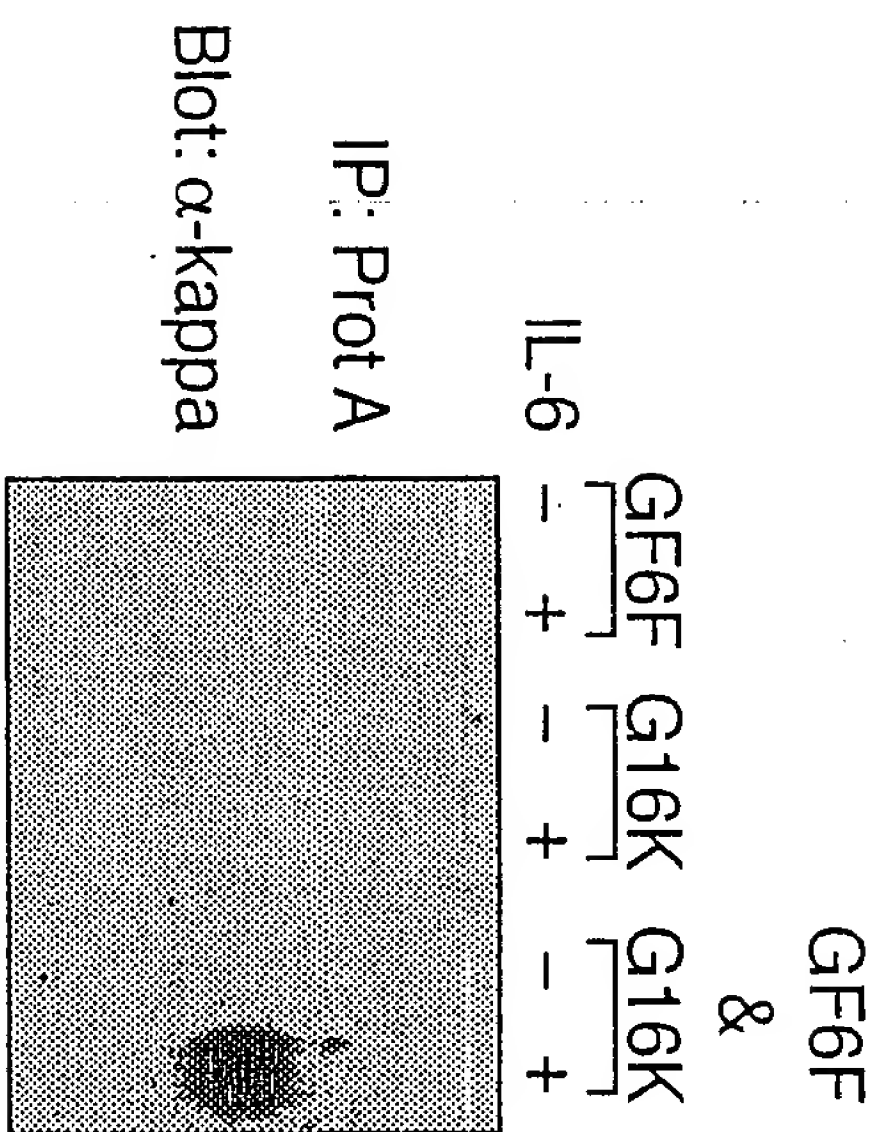


Fig. 20.

XG-1 cell proliferation assay

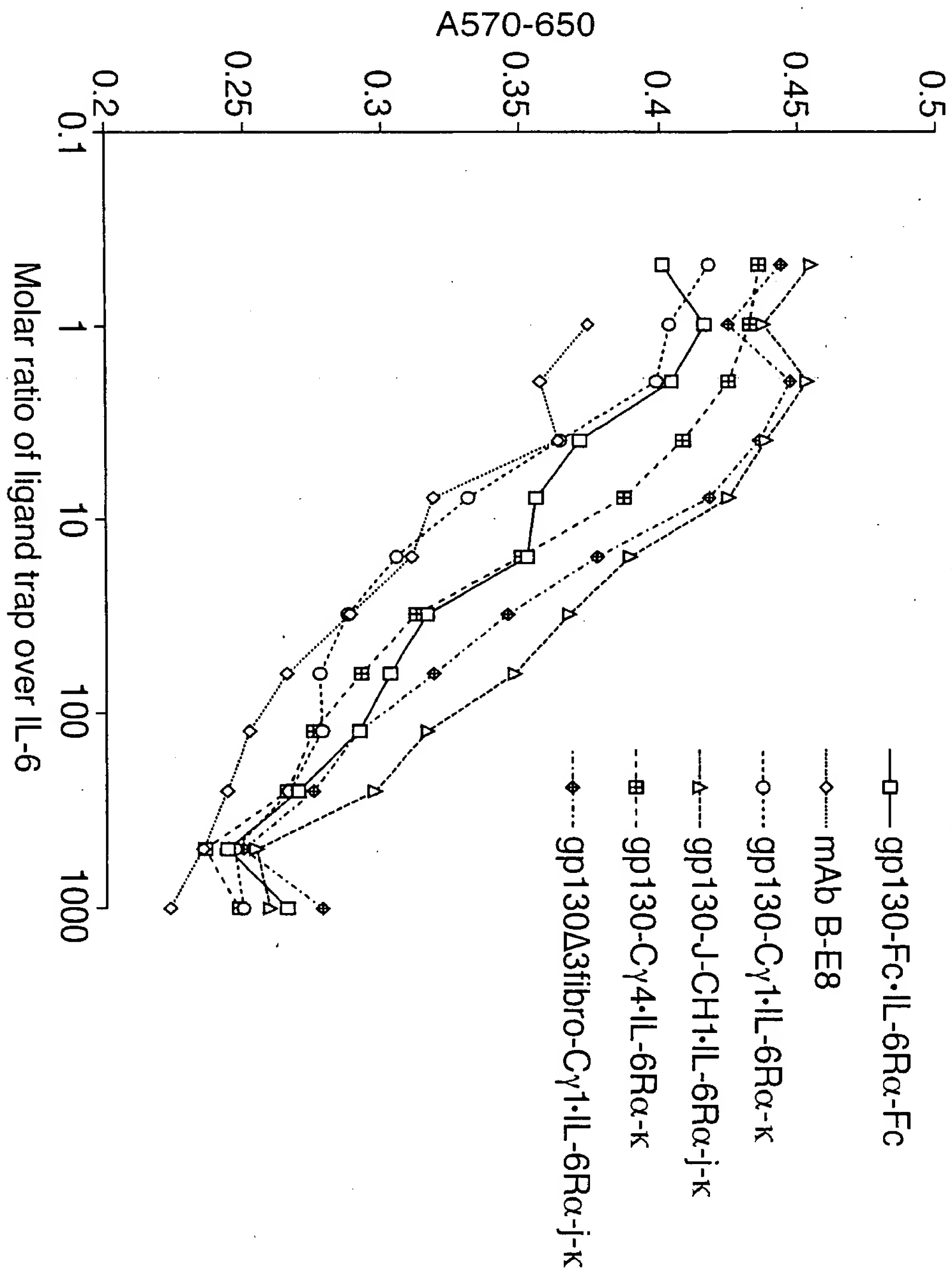


Fig.21A.

16/59

```

      10      20      30      40
      *      *      *      *
ATG GTG AAG CCA TCA TTA CCA TTC ACA TCC CTC TTA TTC CTG CAG CTG
Met Val Lys Pro Ser Leu Pro Phe Thr Ser Leu Leu Phe Leu Gln Leu>

50      60      70      80      90
      *      *      *      *      *
CCC CTG CTG GGA GTG GGG CTG AAC ACG ACA ATT CTG ACG CCC AAT GGG
Pro Leu Leu Gly Val Gly Leu Asn Thr Thr Ile Leu Thr Pro Asn Gly>

100      110      120      130      140
      *      *      *      *      *
AAT GAA GAC ACC ACA GCT GAT TTC TTC CTG ACC ACT ATG CCC ACT GAC
Asn Glu Asp Thr Thr Ala Asp Phe Phe Leu Thr Thr Met Pro Thr Asp>

150      160      170      180      190
      *      *      *      *      *
TCC CTC AGT GTT TCC ACT CTG CCC CTC CCA GAG GTT CAG TGT TTT GTG
Ser Leu Ser Val Ser Thr Leu Pro Leu Pro Glu Val Gln Cys Phe Val>

200      210      220      230      240
      *      *      *      *      *
TTC AAT GTC GAG TAC ATG AAT TGC ACT TGG AAC AGC AGC TCT GAG CCC
Phe Asn Val Glu Tyr Met Asn Cys Thr Trp Asn Ser Ser Ser Glu Pro>

250      260      270      280
      *      *      *      *      *
CAG CCT ACC AAC CTC ACT CTG CAT TAT TGG TAC AAG AAC TCG GAT AAT
Gln Pro Thr Asn Leu Thr Leu His Tyr Trp Tyr Lys Asn Ser Asp Asn>

290      300      310      320      330
      *      *      *      *      *
GAT AAA GTC CAG AAG TGC AGC CAC TAT CTA TTC TCT GAA GAA ATC ACT
Asp Lys Val Gln Lys Cys Ser His Tyr Leu Phe Ser Glu Glu Ile Thr>

340      350      360      370      380
      *      *      *      *      *
TCT GGC TGT CAG TTG CAA AAA AAG GAG ATC CAC CTC TAC CAA ACA TTT
Ser Gly Cys Gln Leu Gln Lys Lys Glu Ile His Leu Tyr Gln Thr Phe>

390      400      410      420      430
      *      *      *      *      *
GTT GTT CAG CTC CAG GAC CCA CGG GAA CCC AGG AGA CAG GCC ACA CAG
Val Val Gln Leu Gln Asp Pro Arg Glu Pro Arg Arg Gln Ala Thr Gln>

440      450      460      470      480
      *      *      *      *      *
ATG CTA AAA CTG CAG AAT CTG GTG ATC CCC TGG GCT CCA GAG AAC CTA
Met Leu Lys Leu Gln Asn Leu Val Ile Pro Trp Ala Pro Glu Asn Leu>

490      500      510      520
      *      *      *      *      *
ACA CTT CAC AAA CTG AGT GAA TCC CAG CTA GAA CTG AAC TGG AAC AAC
Thr Leu His Lys Leu Ser Glu Ser Gln Leu Glu Leu Asn Trp Asn Asn>

530      540      550      560      570
      *      *      *      *      *
AGA TTC TTG AAC CAC TGT TTG GAG CAC TTG GTG CAG TAC CGG ACT GAC
Arg Phe Leu Asn His Cys Leu Glu His Leu Val Gln Tyr Arg Thr Asp>

```


Fig.21B.

17/59

580	590	600	610	620
* * *	* * *	* * *	* * *	* * *
TGG GAC CAC AGC TGG ACT GAA CAA TCA GTG GAT TAT AGA CAT AAG TTC				
Trp Asp His Ser Trp Thr Glu Gln Ser Val Asp Tyr Arg His Lys Phe>				
630	640	650	660	670
* * *	* * *	* * *	* * *	* * *
TCC TTG CCT AGT GTG GAT GGG CAG AAA CGC TAC ACG TTT CGT GTT CGG				
Ser Leu Pro Ser Val Asp Gly Gln Lys Arg Tyr Thr Phe Arg Val Arg>				
680	690	700	710	720
* * *	* * *	* * *	* * *	* * *
AGC CGC TTT AAC CCA CTC TGT GGA AGT GCT CAG CAT TGG AGT GAA TGG				
Ser Arg Phe Asn Pro Leu Cys Gly Ser Ala Gln His Trp Ser Glu Trp>				
730	740	750	760	
* * *	* * *	* * *	* * *	
AGC CAC CCA ATC CAC TGG GGG AGC AAT ACT TCA AAA GAG AAC GCG TCG				
Ser His Pro Ile His Trp Gly Ser Asn Thr Ser Lys Glu Asn Ala Ser>				
770	780	790	800	810
* * *	* * *	* * *	* * *	* * *
TCT GGG AAC ATG AAG GTC CTG CAG GAG CCC ACC TGC GTC TCC GAC TAC				
Ser Gly Asn Met Lys Val Leu Gln Glu Pro Thr Cys Val Ser Asp Tyr>				
820	830	840	850	860
* * *	* * *	* * *	* * *	* * *
ATG AGC ATC TCT ACT TGC GAG TGG AAG ATG AAT GGT CCC ACC AAT TGC				
Met Ser Ile Ser Thr Cys Glu Trp Lys Met Asn Gly Pro Thr Asn Cys>				
870	880	890	900	910
* * *	* * *	* * *	* * *	* * *
AGC ACC GAG CTC CGC CTG TTG TAC CAG CTG GTT TTT CTG CTC TCC GAA				
Ser Thr Glu Leu Arg Leu Leu Tyr Gln Leu Val Phe Leu Leu Ser Glu>				
920	930	940	950	960
* * *	* * *	* * *	* * *	* * *
GCC CAC ACG TGT ATC CCT GAG AAC AAC GGA GGC GCG GGG TGC GTG TGC				
Ala His Thr Cys Ile Pro Glu Asn Asn Gly Gly Ala Gly Cys Val Cys>				
970	980	990	1000	
* * *	* * *	* * *	* * *	
CAC CTG CTC ATG GAT GAC GTG GTC AGT GCG GAT AAC TAT ACA CTG GAC				
His Leu Leu Met Asp Asp Val Val Ser Ala Asp Asn Tyr Thr Leu Asp>				
1010	1020	1030	1040	1050
* * *	* * *	* * *	* * *	* * *
CTG TGG GCT GGG CAG CAG CTG CTG TGG AAG GGC TCC TTC AAG CCC AGC				
Leu Trp Ala Gly Gln Gln Leu Leu Trp Lys Gly Ser Phe Lys Pro Ser>				
1060	1070	1080	1090	1100
* * *	* * *	* * *	* * *	* * *
GAG CAT GTG AAA CCC AGG GCC CCA GGA AAC CTG ACA GTT CAC ACC AAT				
Glu His Val Lys Pro Arg Ala Pro Gly Asn Leu Thr Val His Thr Asn>				
1110	1120	1130	1140	1150
* * *	* * *	* * *	* * *	* * *
GTC TCC GAC ACT CTG CTG CTG ACC TGG AGC AAC CCG TAT CCC CCT GAC				
Val Ser Asp Thr Leu Leu Leu Thr Trp Ser Asn Pro Tyr Pro Pro Asp>				
1160	1170	1180	1190	1200
* * *	* * *	* * *	* * *	* * *

18/59

Fig.21C.

```
AAT TAC CTG TAT AAT CAT CTC ACC TAT GCA GTC AAC ATT TGG AGT GAA
Asn Tyr Leu Tyr Asn His Leu Thr Tyr Ala Val Asn Ile Trp Ser Glu>

      1210      1220      1230      1240
      *      *      *      *      *      *      *
AAC GAC CCG GCA GAT TTC AGA ATC TAT AAC GTG ACC TAC CTA GAA CCC
Asn Asp Pro Ala Asp Phe Arg Ile Tyr Asn Val Thr Tyr Leu Glu Pro>

1250      1260      1270      1280      1290
*      *      *      *      *      *      *
TCC CTC CGC ATC GCA GCC AGC ACC CTG AAG TCT GGG ATT TCC TAC AGG
Ser Leu Arg Ile Ala Ala Ser Thr Leu Lys Ser Gly Ile Ser Tyr Arg>

      1300      1310      1320      1330      1340
      *      *      *      *      *      *      *
GCA CGG GTG AGG GCC TGG GCT CAG TGC TAT AAC ACC ACC TGG AGT GAG
Ala Arg Val Arg Ala Trp Ala Gln Cys Tyr Asn Thr Thr Trp Ser Glu>

      1350      1360      1370      1380      1390
*      *      *      *      *      *      *
TGG AGC CCC AGC ACC AAG TGG CAC AAC TCC TAC AGG GAG CCC TTC GAG
Trp Ser Pro Ser Thr Lys Trp His Asn Ser Tyr Arg Glu Pro Phe Glu>

      1400      1410      1420      1430      1440
      *      *      *      *      *      *      *
CAG TCC GGA GAC AAA ACT CAC ACA TGC CCA CCG TGC CCA GCA CCT GAA
Gln Ser Gly Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu>

      1450      1460      1470      1480
      *      *      *      *      *      *      *
CTC CTG GGG GGA CCG TCA GTC TTC CTC TTC CCC CCA AAA CCC AAG GAC
Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp>

1490      1500      1510      1520      1530
*      *      *      *      *      *      *
ACC CTC ATG ATC TCC CGG ACC CCT GAG GTC ACA TGC GTG GTG GTG GAC
Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp>

      1540      1550      1560      1570      1580
      *      *      *      *      *      *      *
GTG AGC CAC GAA GAC CCT GAG GTC AAG TTC AAC TGG TAC GTG GAC GGC
Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly>

      1590      1600      1610      1620      1630
*      *      *      *      *      *      *
GTG GAG GTG CAT AAT GCC AAG ACA AAG CCG CGG GAG GAG CAG TAC AAC
Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn>

      1640      1650      1660      1670      1680
      *      *      *      *      *      *      *
AGC ACG TAC CGT GTG GTC AGC GTC CTC ACC GTC CTG CAC CAG GAC TGG
Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp>

      1690      1700      1710      1720
      *      *      *      *      *      *      *
CTG AAT GGC AAG GAG TAC AAG TGC AAG GTC TCC AAC AAA GCC CTC CCA
Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro>

1730      1740      1750      1760      1770
*      *      *      *      *      *      *
GCC CCC ATC GAG AAA ACC ATC TCC AAA GCC AAA GGG CAG CCC CGA GAA
Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu>
```

Fig.21 D.

1780		1790		1800		1810		1820
*	*	*	*	*	*	*	*	*
CCA CAG GTG TAC ACC CTG CCC CCA TCC CGG GAG GAG ATG ACC AAG AAC Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn>								
1830		1840		1850		1860		1870
*	*	*	*	*	*	*	*	*
CAG GTC AGC CTG ACC TGC CTG GTC AAA GGC TTC TAT CCC AGC GAC ATC Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile>								
1880		1890		1900		1910		1920
*	*	*	*	*	*	*	*	*
GCC GTG GAG TGG GAG AGC AAT GGG CAG CCG GAG AAC AAC TAC AAG ACC Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr>								
1930		1940		1950		1960		
*	*	*	*	*	*	*	*	*
ACG CCT CCC GTG CTG GAC TCC GAC GGC TCC TTC TTC CTC TAT AGC AAG Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys>								
1970		1980		1990		2000		2010
*	*	*	*	*	*	*	*	*
CTC ACC GTG GAC AAG AGC AGG TGG CAG CAG GGG AAC GTC TTC TCA TGC Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys>								
2020		2030		2040		2050		2060
*	*	*	*	*	*	*	*	*
TCC GTG ATG CAT GAG GCT CTG CAC AAC CAC TAC ACG CAG AAG AGC CTC Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu>								
2070		2080						
*	*	*	*	*				
TCC CTG TCT CCG GGT AAA TGA Ser Leu Ser Pro Gly Lys ***>								

20/59

10			20			30			40						
ATG	GTG	AAG	CCA	TCA	TTA	CCA	TTC	ACA	TCC	CTC	TTA	TTC	CTG	CAG	CTG
Met	Val	Lys	Pro	Ser	Leu	Pro	Phe	Thr	Ser	Leu	Leu	Phe	Leu	Gln	Leu>
50			60			70			80			90			
CCC	CTG	CTG	GGA	GTG	GGG	CTG	AAC	ACG	ACA	ATT	CTG	ACG	CCC	AAT	GGG
Pro	Leu	Leu	Gly	Val	Gly	Leu	Asn	Thr	Thr	Ile	Leu	Thr	Pro	Asn	Gly>
100			110			120			130			140			
AAT	GAA	GAC	ACC	ACA	GCT	GAT	TTC	TTC	CTG	ACC	ACT	ATG	CCC	ACT	GAC
Asn	Glu	Asp	Thr	Thr	Ala	Asp	Phe	Phe	Leu	Thr	Thr	Met	Pro	Thr	Asp>
150			160			170			180			190			
TCC	CTC	AGT	GTT	TCC	ACT	CTG	CCC	CTC	CCA	GAG	GTT	CAG	TGT	TTT	GTG
Ser	Leu	Ser	Val	Ser	Thr	Leu	Pro	Leu	Pro	Glu	Val	Gln	Cys	Phe	Val>
200			210			220			230			240			
TTC	AAT	GTC	GAG	TAC	ATG	AAT	TGC	ACT	TGG	AAC	AGC	AGC	TCT	GAG	CCC
Phe	Asn	Val	Glu	Tyr	Met	Asn	Cys	Thr	Trp	Asn	Ser	Ser	Ser	Glu	Pro>
250			260			270			280						
CAG	CCT	ACC	AAC	CTC	ACT	CTG	CAT	TAT	TGG	TAC	AAG	AAC	TCG	GAT	AAT
Gln	Pro	Thr	Asn	Leu	Thr	Leu	His	Tyr	Trp	Tyr	Lys	Asn	Ser	Asp	Asn>
290			300			310			320			330			
GAT	AAA	GTC	CAG	AAG	TGC	AGC	CAC	TAT	CTA	TTC	TCT	GAA	GAA	ATC	ACT
Asp	Lys	Val	Gln	Lys	Cys	Ser	His	Tyr	Leu	Phe	Ser	Glu	Glu	Ile	Thr>
340			350			360			370			380			
TCT	GGC	TGT	CAG	TTG	CAA	AAA	AAG	GAG	ATC	CAC	CTC	TAC	CAA	ACA	TTT
Ser	Gly	Cys	Gln	Leu	Gln	Lys	Lys	Glu	Ile	His	Leu	Tyr	Gln	Thr	Phe>
390			400			410			420			430			
GTT	GTT	CAG	CTC	CAG	GAC	CCA	CGG	GAA	CCC	AGG	AGA	CAG	GCC	ACA	CAG
Val	Val	Gln	Leu	Gln	Asp	Pro	Arg	Glu	Pro	Arg	Arg	Gln	Ala	Thr	Gln>
440			450			460			470			480			
ATG	CTA	AAA	CTG	CAG	AAT	CTG	GTG	ATC	CCC	TGG	GCT	CCA	GAG	AAC	CTA
Met	Leu	Lys	Leu	Gln	Asn	Leu	Val	Ile	Pro	Trp	Ala	Pro	Glu	Asn	Leu>
490			500			510			520						
ACA	CTT	CAC	AAA	CTG	AGT	GAA	TCC	CAG	CTA	GAA	CTG	AAC	TGG	AAC	AAC
Thr	Leu	His	Lys	Leu	Ser	Glu	Ser	Gln	Leu	Glu	Leu	Asn	Trp	Asn	Asn>
530			540			550			560			570			
AGA	TTC	TTG	AAC	CAC	TGT	TTG	GAG	CAC	TTG	GTG	CAG	TAC	CGG	ACT	GAC
Arg	Phe	Leu	Asn	His	Cys	Leu	Glu	His	Leu	Val	Gln	Tyr	Arg	Thr	Asp>

Fig.22B.

21/59

580	590	600	610	620
* * *	* * *	* * *	* * *	* * *
TGG GAC CAC AGC TGG ACT GAA CAA TCA GTG GAT TAT AGA CAT AAG TTC				
Trp Asp His Ser Trp Thr Glu Gln Ser Val Asp Tyr Arg His Lys Phe>				
630	640	650	660	670
* * *	* * *	* * *	* * *	* * *
TCC TTG CCT AGT GTG GAT GGG CAG AAA CGC TAC ACG TTT CGT GTT CGG				
Ser Leu Pro Ser Val Asp Gly Gln Lys Arg Tyr Thr Phe Arg Val Arg>				
680	690	700	710	720
* * *	* * *	* * *	* * *	* * *
AGC CGC TTT AAC CCA CTC TGT GGA AGT GCT CAG CAT TGG AGT GAA TGG				
Ser Arg Phe Asn Pro Leu Cys Gly Ser Ala Gln His Trp Ser Glu Trp>				
730	740	750	760	
* * *	* * *	* * *	* * *	
AGC CAC CCA ATC CAC TGG GGG AGC AAT ACT TCA AAA GAG AAC GGG AAC				
Ser His Pro Ile His Trp Gly Ser Asn Thr Ser Lys Glu Asn Gly Asn>				
770	780	790	800	810
* * *	* * *	* * *	* * *	* * *
ATG AAG GTC CTG CAG GAG CCC ACC TGC GTC TCC GAC TAC ATG AGC ATC				
Met Lys Val Leu Gln Glu Pro Thr Cys Val Ser Asp Tyr Met Ser Ile>				
820	830	840	850	860
* * *	* * *	* * *	* * *	* * *
TCT ACT TGC GAG TGG AAG ATG AAT GGT CCC ACC AAT TGC AGC ACC GAG				
Ser Thr Cys Glu Trp Lys Met Asn Gly Pro Thr Asn Cys Ser Thr Glu>				
870	880	890	900	910
* * *	* * *	* * *	* * *	* * *
CTC CGC CTG TTG TAC CAG CTG GTT TTT CTG CTC TCC GAA GCC CAC ACG				
Leu Arg Leu Leu Tyr Gln Leu Val Phe Leu Leu Ser Glu Ala His Thr>				
920	930	940	950	960
* * *	* * *	* * *	* * *	* * *
TGT ATC CCT GAG AAC AAC GGA GGC GCG GGG TGC GTG TGC CAC CTG CTC				
Cys Ile Pro Glu Asn Asn Gly Gly Ala Gly Cys Val Cys His Leu Leu>				
970	980	990	1000	
* * *	* * *	* * *	* * *	
ATG GAT GAC GTG GTC AGT GCG GAT AAC TAT ACA CTG GAC CTG TGG GCT				
Met Asp Asp Val Val Ser Ala Asp Asn Tyr Thr Leu Asp Leu Trp Ala>				
1010	1020	1030	1040	1050
* * *	* * *	* * *	* * *	* * *
GGG CAG CAG CTG CTG TGG AAG GGC TCC TTC AAG CCC AGC GAG CAT GTG				
Gly Gln Gln Leu Leu Trp Lys Gly Ser Phe Lys Pro Ser Glu His Val>				
1060	1070	1080	1090	1100
* * *	* * *	* * *	* * *	* * *
AAA CCC AGG GCC CCA GGA AAC CTG ACA GTT CAC ACC AAT GTC TCC GAC				
Lys Pro Arg Ala Pro Gly Asn Leu Thr Val His Thr Asn Val Ser Asp>				
1110	1120	1130	1140	1150
* * *	* * *	* * *	* * *	* * *
ACT CTG CTG CTG ACC TGG AGC AAC CCG TAT CCC CCT GAC AAT TAC CTG				
Thr Leu Leu Leu Thr Trp Ser Asn Pro Tyr Pro Pro Asp Asn Tyr Leu>				
1160	1170	1180	1190	1200
* * *	* * *	* * *	* * *	* * *

Fig.22C.

22/59

```

TAT AAT CAT CTC ACC TAT GCA GTC AAC ATT TGG AGT GAA AAC GAC CCG,
Tyr Asn His Leu Thr Tyr Ala Val Asn Ile Trp Ser Glu Asn Asp Pro>

      1210      1220      1230      1240
      *        *        *        *
GCA GAT TTC AGA ATC TAT AAC GTG ACC TAC CTA GAA CCC TCC CTC CGC
Ala Asp Phe Arg Ile Tyr Asn Val Thr Tyr Leu Glu Pro Ser Leu Arg>

1250      1260      1270      1280      1290
*        *        *        *        *
ATC GCA GCC AGC ACC CTG AAG TCT GGG ATT TCC TAC AGG GCA CGG GTG
Ile Ala Ala Ser Thr Leu Lys Ser Gly Ile Ser Tyr Arg Ala Arg Val>

      1300      1310      1320      1330      1340
      *        *        *        *        *
AGG GCC TGG GCT CAG AGC TAT AAC ACC ACC TGG AGT GAG TGG AGC CCC
Arg Ala Trp Ala Gln Ser Tyr Asn Thr Thr Trp Ser Glu Trp Ser Pro>

      1350      1360      1370      1380      1390
*        *        *        *        *
AGC ACC AAG TGG CAC AAC TCC TAC AGG GAG CCC TTC GAG CAG TCC GGA
Ser Thr Lys Trp His Asn Ser Tyr Arg Glu Pro Phe Glu Gln Ser Gly>

      1400      1410      1420      1430      1440
      *        *        *        *        *
GAC AAA ACT CAC ACA TGC CCA CCG TGC CCA GCA CCT GAA CTC CTG GGG
Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly>

      1450      1460      1470      1480
      *        *        *        *
GGA CCG TCA GTC TTC CTC TTC CCC CCA AAA CCC AAG GAC ACC CTC ATG
Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met>

1490      1500      1510      1520      1530
*        *        *        *        *
ATC TCC CGG ACC CCT GAG GTC ACA TGC GTG GTG GTG GAC GTG AGC CAC
Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His>

      1540      1550      1560      1570      1580
      *        *        *        *        *
GAA GAC CCT GAG GTC AAG TTC AAC TGG TAC GTG GAC GGC GTG GAG GTG
Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val>

      1590      1600      1610      1620      1630
*        *        *        *        *
CAT AAT GCC AAG ACA AAG CCG CGG GAG GAG CAG TAC AAC AGC ACG TAC
His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr>

      1640      1650      1660      1670      1680
      *        *        *        *        *
CGT GTG GTC AGC GTC CTC ACC GTC CTG CAC CAG GAC TGG CTG AAT GGC
Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly>

      1690      1700      1710      1720
      *        *        *        *
AAG GAG TAC AAG TGC AAG GTC TCC AAC AAA GCC CTC CCA GCC CCC ATC
Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile>

1730      1740      1750      1760      1770
*        *        *        *        *
GAG AAA ACC ATC TCC AAA GCC AAA GGG CAG CCC CGA GAA CCA CAG GTG
Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val>

```

[illegible]

Fig.23A.

24/59

10 20 30 40
* * * * *
ATG GTG AAG CCA TCA TTA CCA TTC ACA TCC CTC TTA TTC CTG CAG CTG
Met Val Lys Pro Ser Leu Pro Phe Thr Ser Leu Leu Phe Leu Gln Leu>
50 60 70 80 90
* * * * *
CCC CTG CTG GGA GTG GGG CTG AAC ACG ACA ATT CTG ACG CCC AAT GGG
Pro Leu Leu Gly Val Gly Leu Asn Thr Thr Ile Leu Thr Pro Asn Gly>
100 110 120 130 140
* * * * *
AAT GAA GAC ACC ACA GCT GAT TTC TTC CTG ACC ACT ATG CCC ACT GAC
Asn Glu Asp Thr Thr Ala Asp Phe Phe Leu Thr Thr Met Pro Thr Asp>
150 160 170 180 190
* * * * *
TCC CTC AGT GTT TCC ACT CTG CCC CTC CCA GAG GTT CAG TGT TTT GTG
Ser Leu Ser Val Ser Thr Leu Pro Leu Pro Glu Val Gln Cys Phe Val>
200 210 220 230 240
* * * * *
TTC AAT GTC GAG TAC ATG AAT TGC ACT TGG AAC AGC AGC TCT GAG CCC
Phe Asn Val Glu Tyr Met Asn Cys Thr Trp Asn Ser Ser Ser Glu Pro>
250 260 270 280
* * * * *
CAG CCT ACC AAC CTC ACT CTG CAT TAT TGG TAC AAG AAC TCG GAT AAT
Gln Pro Thr Asn Leu Thr Leu His Tyr Trp Tyr Lys Asn Ser Asp Asn>
290 300 310 320 330
* * * * *
GAT AAA GTC CAG AAG TGC AGC CAC TAT CTA TTC TCT GAA GAA ATC ACT
Asp Lys Val Gln Lys Cys Ser His Tyr Leu Phe Ser Glu Glu Ile Thr>
340 350 360 370 380
* * * * *
TCT GGC TGT CAG TTG CAA AAA AAG GAG ATC CAC CTC TAC CAA ACA TTT
Ser Gly Cys Gln Leu Gln Lys Lys Glu Ile His Leu Tyr Gln Thr Phe>
390 400 410 420 430
* * * * *
GTT GTT CAG CTC CAG GAC CCA CGG GAA CCC AGG AGA CAG GCC ACA CAG
Val Val Gln Leu Gln Asp Pro Arg Glu Pro Arg Arg Gln Ala Thr Gln>
440 450 460 470 480
* * * * *
ATG CTA AAA CTG CAG AAT CTG GTG ATC CCC TGG GCT CCA GAG AAC CTA
Met Leu Lys Leu Gln Asn Leu Val Ile Pro Trp Ala Pro Glu Asn Leu>
490 500 510 520
* * * * *
ACA CTT CAC AAA CTG AGT GAA TCC CAG CTA GAA CTG AAC TGG AAC AAC
Thr Leu His Lys Leu Ser Glu Ser Gln Leu Glu Leu Asn Trp Asn Asn>
530 540 550 560 570
* * * * *
AGA TTC TTG AAC CAC TGT TTG GAG CAC TTG GTG CAG TAC CGG ACT GAC
Arg Phe Leu Asn His Cys Leu Glu His Leu Val Gln Tyr Arg Thr Asp>

Fig.23B.

25/59

```

580      590      600      610      620
*      *      *      *      *
TGG GAC CAC AGC TGG ACT GAA CAA TCA GTG GAT TAT AGA CAT AAG TTC
Trp Asp His Ser Trp Thr Glu Gln Ser Val Asp Tyr Arg His Lys Phe>

630      640      650      660      670
*      *      *      *      *
TCC TTG CCT AGT GTG GAT GGG CAG AAA CGC TAC ACG TTT CGT GTT CGG
Ser Leu Pro Ser Val Asp Gly Gln Lys Arg Tyr Thr Phe Arg Val Arg>

680      690      700      710      720
*      *      *      *      *
AGC CGC TTT AAC CCA CTC TGT GGA AGT GCT CAG CAT TGG AGT GAA TGG
Ser Arg Phe Asn Pro Leu Cys Gly Ser Ala Gln His Trp Ser Glu Trp>

730      740      750      760
*      *      *      *
AGC CAC CCA ATC CAC TGG GGG AGC AAT ACT TCA AAA GAG AAC GCG TCG
Ser His Pro Ile His Trp Gly Ser Asn Thr Ser Lys Glu Asn Ala Ser>

770      780      790      800      810
*      *      *      *      *
TCT GGG AAC ATG AAG GTC CTG CAG GAG CCC ACC TGC GTC TCC GAC TAC
Ser Gly Asn Met Lys Val Leu Gln Glu Pro Thr Cys Val Ser Asp Tyr>

820      830      840      850      860
*      *      *      *      *
ATG AGC ATC TCT ACT TGC GAG TGG AAG ATG AAT GGT CCC ACC AAT TGC
Met Ser Ile Ser Thr Cys Glu Trp Lys Met Asn Gly Pro Thr Asn Cys>

870      880      890      900      910
*      *      *      *      *
AGC ACC GAG CTC CGC CTG TTG TAC CAG CTG GTT TTT CTG CTC TCC GAA
Ser Thr Glu Leu Arg Leu Leu Tyr Gln Leu Val Phe Leu Leu Ser Glu>

920      930      940      950      960
*      *      *      *      *
GCC CAC ACG TGT ATC CCT GAG AAC AAC GGA GGC GCG GGG TGC GTG TGC
Ala His Thr Cys Ile Pro Glu Asn Asn Gly Gly Ala Gly Cys Val Cys>

970      980      990      1000
*      *      *      *
CAC CTG CTC ATG GAT GAC GTG GTC AGT GCG GAT AAC TAT ACA CTG GAC
His Leu Leu Met Asp Asp Val Val Ser Ala Asp Asn Tyr Thr Leu Asp>

1010      1020      1030      1040      1050
*      *      *      *      *
CTG TGG GCT GGG CAG CAG CTG CTG TGG AAG GGC TCC TTC AAG CCC AGC
Leu Trp Ala Gly Gln Gln Leu Leu Trp Lys Gly Ser Phe Lys Pro Ser>

1060      1070      1080      1090      1100
*      *      *      *      *
GAG CAT GTG AAA CCC AGG GCC CCA GGA AAC CTG ACA GTT CAC ACC AAT
Glu His Val Lys Pro Arg Ala Pro Gly Asn Leu Thr Val His Thr Asn>

1110      1120      1130      1140      1150
*      *      *      *      *
GTC TCC GAC ACT CTG CTG CTG ACC TGG AGC AAC CCG TAT CCC CCT GAC
Val Ser Asp Thr Leu Leu Leu Thr Trp Ser Asn Pro Tyr Pro Pro Asp>

1160      1170      1180      1190      1200
*      *      *      *      *

```

26/59

Fig.23C.

```
AAT TAC CTG TAT AAT CAT CTC ACC TAT GCA GTC AAC ATT TGG AGT GAA
Asn Tyr Leu Tyr Asn His Leu Thr Tyr Ala Val Asn Ile Trp Ser, Glu>

      1210      1220      1230      1240
      *      *      *      *      *      *      *      *
AAC GAC CCG GCA GAT TTC AGA ATC TAT AAC GTG ACC TAC CTA GAA CCC
Asn Asp Pro Ala Asp Phe Arg Ile Tyr Asn Val Thr Tyr Leu Glu Pro>

1250      1260      1270      1280      1290
*      *      *      *      *      *      *      *
TCC CTC CGC ATC GCA GCC AGC ACC CTG AAG TCT GGG ATT TCC TAC AGG
Ser Leu Arg Ile Ala Ala Ser Thr Leu Lys Ser Gly Ile Ser Tyr Arg>

      1300      1310      1320      1330      1340
      *      *      *      *      *      *      *      *
GCA CGG GTG AGG GCC TGG GCT CAG AGC TAT AAC ACC ACC TGG AGT GAG
Ala Arg Val Arg Ala Trp Ala Gln Ser Tyr Asn Thr Thr Trp Ser Glu>

      1350      1360      1370      1380      1390
*      *      *      *      *      *      *      *
TGG AGC CCC AGC ACC AAG TGG CAC AAC TCC TAC AGG GAG CCC TTC GAG
Trp Ser Pro Ser Thr Lys Trp His Asn Ser Tyr Arg Glu Pro Phe Glu>

      1400      1410      1420      1430      1440
      *      *      *      *      *      *      *      *
CAG TCC GGA GAC AAA ACT CAC ACA TGC CCA CCG TGC CCA GCA CCT GAA
Gln Ser Gly Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu>

      1450      1460      1470      1480
      *      *      *      *      *      *      *      *
CTC CTG GGG GGA CCG TCA GTC TTC CTC TTC CCC CCA AAA CCC AAG GAC
Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp>

1490      1500      1510      1520      1530
*      *      *      *      *      *      *      *
ACC CTC ATG ATC TCC CGG ACC CCT GAG GTC ACA TGC GTG GTG GTG GAC
Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp>

      1540      1550      1560      1570      1580
      *      *      *      *      *      *      *      *
GTG AGC CAC GAA GAC CCT GAG GTC AAG TTC AAC TGG TAC GTG GAC GGC
Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly>

      1590      1600      1610      1620      1630
*      *      *      *      *      *      *      *
GTG GAG GTG CAT AAT GCC AAG ACA AAG CCG CGG GAG GAG CAG TAC AAC
Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn>

      1640      1650      1660      1670      1680
      *      *      *      *      *      *      *      *
AGC ACG TAC CGT GTG GTC AGC GTC CTC ACC GTC CTG CAC CAG GAC TGG
Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp>

      1690      1700      1710      1720
      *      *      *      *      *      *      *      *
CTG AAT GGC AAG GAG TAC AAG TGC AAG GTC TCC AAC AAA GCC CTC CCA
Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro>

1730      1740      1750      1760      1770
*      *      *      *      *      *      *      *
GCC CCC ATC GAG AAA ACC ATC TCC AAA GCC AAA GGG CAG CCC CGA GAA
Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu>
```


28/59

Fig.24A.

```

      10      20      30      40
      *      *      *      *
ATG GTG GCC GTC GGC TGC GCG CTG CTG GCT GCC CTG CTG GCC GCG CCG
Met Val Ala Val Gly Cys Ala Leu Leu Ala Ala Leu Leu Ala Ala Pro>

50      60      70      80      90
      *      *      *      *      *
GGA GCG GCG CTG GCC CCA AGG CGC TGC CCT GCG CAG GAG GTG GCA AGA
Gly Ala Ala Leu Ala Pro Arg Arg Cys Pro Ala Gln Glu Val Ala Arg>

100     110     120     130     140
      *      *      *      *      *
GGC GTG CTG ACC AGT CTG CCA GGA GAC AGC GTG ACT CTG ACC TGC CCG
Gly Val Leu Thr Ser Leu Pro Gly Asp Ser Val Thr Leu Thr Cys Pro>

150     160     170     180     190
      *      *      *      *      *
GGG GTA GAG CCG GAA GAC AAT GCC ACT GTT CAC TGG GTG CTC AGG AAG
Gly Val Glu Pro Glu Asp Asn Ala Thr Val His Trp Val Leu Arg Lys>

200     210     220     230     240
      *      *      *      *      *
CCG GCT GCA GGC TCC CAC CCC AGC AGA TGG GCT GGC ATG GGA AGG AGG
Pro Ala Ala Gly Ser His Pro Ser Arg Trp Ala Gly Met Gly Arg Arg>

250     260     270     280
      *      *      *      *
CTG CTG CTG AGG TCG GTG CAG CTC CAC GAC TCT GGA AAC TAT TCA TGC
Leu Leu Leu Arg Ser Val Gln Leu His Asp Ser Gly Asn Tyr Ser Cys>

290     300     310     320     330
      *      *      *      *      *
TAC CGG GCC GGC CGC CCA GCT GGG ACT GTG CAC TTG CTG GTG GAT GTT
Tyr Arg Ala Gly Arg Pro Ala Gly Thr Val His Leu Leu Val Asp Val>

340     350     360     370     380
      *      *      *      *      *
CCC CCC GAG GAG CCC CAG CTC TCC TGC TTC CGG AAG AGC CCC CTC AGC
Pro Pro Glu Glu Pro Gln Leu Ser Cys Phe Arg Lys Ser Pro Leu Ser>

390     400     410     420     430
      *      *      *      *      *
AAT GTT GTT TGT GAG TGG GGT CCT CGG AGC ACC CCA TCC CTG ACG ACA
Asn Val Val Cys Glu Trp Gly Pro Arg Ser Thr Pro Ser Leu Thr Thr>

440     450     460     470     480
      *      *      *      *      *
AAG GCT GTG CTC TTG GTG AGG AAG TTT CAG AAC AGT CCG GCC GAA GAC
Lys Ala Val Leu Leu Val Arg Lys Phe Gln Asn Ser Pro Ala Glu Asp>

490     500     510     520
      *      *      *      *
TTC CAG GAG CCG TGC CAG TAT TCC CAG GAG TCC CAG AAG TTC TCC TGC
Phe Gln Glu Pro Cys Gln Tyr Ser Gln Glu Ser Gln Lys Phe Ser Cys>

530     540     550     560     570
      *      *      *      *      *
CAG TTA GCA GTC CCG GAG GGA GAC AGC TCT TTC TAC ATA GTG TCC ATG
Gln Leu Ala Val Pro Glu Gly Asp Ser Ser Phe Tyr Ile Val Ser Met>

```

Fig.24B.

29/59

580 590 600 610 620
* * * * *
TGC GTC GCC AGT AGT GTC GGG AGC AAG TTC AGC AAA ACT CAA ACC TTT
Cys Val Ala Ser Ser Val Gly Ser Lys Phe Ser Lys Thr Gln Thr Phe>
630 640 650 660 670
* * * * *
CAG GGT TGT GGA ATC TTG CAG CCT GAT CCG CCT GCC AAC ATC ACA GTC
Gln Gly Cys Gly Ile Leu Gln Pro Asp Pro Pro Ala Asn Ile Thr Val>
680 690 700 710 720
* * * * *
ACT GCC GTG GCC AGA AAC CCC CGC TGG CTC AGT GTC ACC TGG CAA GAC
Thr Ala Val Ala Arg Asn Pro Arg Trp Leu Ser Val Thr Trp Gln Asp>
730 740 750 760
* * * * *
CCC CAC TCC TGG AAC TCA TCT TTC TAC AGA CTA CGG TTT GAG CTC AGA
Pro His Ser Trp Asn Ser Ser Phe Tyr Arg Leu Arg Phe Glu Leu Arg>
770 780 790 800 810
* * * * *
TAT CGG GCT GAA CGG TCA AAG ACA TTC ACA ACA TGG ATG GTC AAG GAC
Tyr Arg Ala Glu Arg Ser Lys Thr Phe Thr Thr Trp Met Val Lys Asp>
820 830 840 850 860
* * * * *
CTC CAG CAT CAC TGT GTC ATC CAC GAC GCC TGG AGC GGC CTG AGG CAC
Leu Gln His His Cys Val Ile His Asp Ala Trp Ser Gly Leu Arg His>
870 880 890 900 910
* * * * *
GTG GTG CAG CTT CGT GCC CAG GAG GAG TTC GGG CAA GGC GAG TGG AGC
Val Val Gln Leu Arg Ala Gln Glu Glu Phe Gly Gln Gly Glu Trp Ser>
920 930 940 950 960
* * * * *
GAG TGG AGC CCG GAG GCC ATG GGC ACG CCT TGG ACA GAA TCC AGG AGT
Glu Trp Ser Pro Glu Ala Met Gly Thr Pro Trp Thr Glu Ser Arg Ser>
970 980 990 1000
* * * * *
CCT CCA GCT GAG AAC GAG GTG TCC ACC CCC ATG ACC GGT GGC GCG CCT
Pro Pro Ala Glu Asn Glu Val Ser Thr Pro Met Thr Gly Gly Ala Pro>
1010 1020 1030 1040 1050
* * * * *
TCA GGT GCT CAG CTG GAA CTT CTA GAC CCA TGT GGT TAT ATC AGT CCT
Ser Gly Ala Gln Leu Glu Leu Leu Asp Pro Cys Gly Tyr Ile Ser Pro>
1060 1070 1080 1090 1100
* * * * *
GAA TCT CCA GTT GTA CAA CTT CAT TCT AAT TTC ACT GCA GTT TGT GTG
Glu Ser Pro Val Val Gln Leu His Ser Asn Phe Thr Ala Val Cys Val>
1110 1120 1130 1140 1150
* * * * *
CTA AAG GAA AAA TGT ATG GAT TAT TTT CAT GTA AAT GCT AAT TAC ATT
Leu Lys Glu Lys Cys Met Asp Tyr Phe His Val Asn Ala Asn Tyr Ile>
1160 1170 1180 1190 1200
* * * * *

Fig.24C.

30/59

```
GTC TGG AAA ACA AAC CAT TTT ACT ATT CCT AAG GAG CAA TAT ACT ATC
Val Trp Lys Thr Asn His Phe Thr Ile Pro Lys Glu Gln Tyr Thr Ile>

      1210      1220      1230      1240
      *      *      *      *      *      *      *
ATA AAC AGA ACA GCA TCC AGT GTC ACC TTT ACA GAT ATA GCT TCA TTA
Ile Asn Arg Thr Ala Ser Ser Val Thr Phe Thr Asp Ile Ala Ser Leu>

1250      1260      1270      1280      1290
*      *      *      *      *      *      *
AAT ATT CAG CTC ACT TGC AAC ATT CTT ACA TTC GGA CAG CTT GAA CAG
Asn Ile Gln Leu Thr Cys Asn Ile Leu Thr Phe Gly Gln Leu Glu Gln>

      1300      1310      1320      1330      1340
      *      *      *      *      *      *      *
AAT GTT TAT GGA ATC ACA ATA ATT TCA GGC TTG CCT CCA GAA AAA CCT
Asn Val Tyr Gly Ile Thr Ile Ile Ser Gly Leu Pro Pro Glu Lys Pro>

      1350      1360      1370      1380      1390
*      *      *      *      *      *      *
AAA AAT TTG AGT TGC ATT GTG AAC GAG GGG AAG AAA ATG AGG TGT GAG
Lys Asn Leu Ser Cys Ile Val Asn Glu Gly Lys Lys Met Arg Cys Glu>

      1400      1410      1420      1430      1440
      *      *      *      *      *      *      *
TGG GAT GGT GGA AGG GAA ACA CAC TTG GAG ACA AAC TTC ACT TTA AAA
Trp Asp Gly Gly Arg Glu Thr His Leu Glu Thr Asn Phe Thr Leu Lys>

      1450      1460      1470      1480
      *      *      *      *      *      *      *
TCT GAA TGG GCA ACA CAC AAG TTT GCT GAT TGC AAA GCA AAA CGT GAC
Ser Glu Trp Ala Thr His Lys Phe Ala Asp Cys Lys Ala Lys Arg Asp>

1490      1500      1510      1520      1530
*      *      *      *      *      *      *
ACC CCC ACC TCA TGC ACT GTT GAT TAT TCT ACT GTG TAT TTT GTC AAC
Thr Pro Thr Ser Cys Thr Val Asp Tyr Ser Thr Val Tyr Phe Val Asn>

      1540      1550      1560      1570      1580
      *      *      *      *      *      *      *
ATT GAA GTC TGG GTA GAA GCA GAG AAT GCC CTT GGG AAG GTT ACA TCA
Ile Glu Val Trp Val Glu Ala Glu Asn Ala Leu Gly Lys Val Thr Ser>

      1590      1600      1610      1620      1630
*      *      *      *      *      *      *
GAT CAT ATC AAT TTT GAT CCT GTA TAT AAA GTG AAG CCC AAT CCG CCA
Asp His Ile Asn Phe Asp Pro Val Tyr Lys Val Lys Pro Asn Pro Pro>

      1640      1650      1660      1670      1680
      *      *      *      *      *      *      *
CAT AAT TTA TCA GTG ATC AAC TCA GAG GAA CTG TCT AGT ATC TTA AAA
His Asn Leu Ser Val Ile Asn Ser Glu Glu Leu Ser Ser Ile Leu Lys>

      1690      1700      1710      1720
      *      *      *      *      *      *      *
TTG ACA TGG ACC AAC CCA AGT ATT AAG AGT GTT ATA ATA CTA AAA TAT
Leu Thr Trp Thr Asn Pro Ser Ile Lys Ser Val Ile Ile Leu Lys Tyr>

1730      1740      1750      1760      1770
*      *      *      *      *      *      *
AAC ATT CAA TAT AGG ACC AAA GAT GCC TCA ACT TGG AGC CAG ATT CCT
Asn Ile Gln Tyr Arg Thr Lys Asp Ala Ser Thr Trp Ser Gln Ile Pro>
```


Fig.24D.

31/59

1780	1790	1800	1810	1820
* * *	* * *	* * *	* * *	* * *
CCT GAA GAC	ACA GCA TCC	ACC CGA TCT	TCA TTC ACT	GTC CAA GAC CTT
Pro Glu Asp	Thr Ala Ser	Thr Arg Ser	Ser Phe Thr	Val Gln Asp Leu>
1830	1840	1850	1860	1870
* * *	* * *	* * *	* * *	* * *
AAA CCT TTT	ACA GAA TAT	GTG TTT AGG	ATT CGC TGT	ATG AAG GAA GAT
Lys Pro Phe	Thr Glu Tyr	Val Phe Arg	Ile Arg Cys	Met Lys Glu Asp>
1880	1890	1900	1910	1920
* * *	* * *	* * *	* * *	* * *
GGT AAG GGA	TAC TGG AGT	GAC TGG AGT	GAA GAA GCA	AGT GGG ATC ACC
Gly Lys Gly	Tyr Trp Ser	Asp Trp Ser	Glu Glu Ala	Ser Gly Ile Thr>
1930	1940	1950	1960	
* * *	* * *	* * *	* * *	
TAT GAA GAT	AGA CCA TCT	AAA GCA CCA	AGT TTC TGG	TAT AAA ATA GAT
Tyr Glu Asp	Arg Pro Ser	Lys Ala Pro	Ser Phe Trp	Tyr Lys Ile Asp>
1970	1980	1990	2000	2010
* * *	* * *	* * *	* * *	* * *
CCA TCC CAT	ACT CAA GGC	TAC AGA ACT	GTA CAA CTC	GTG TGG AAG ACA
Pro Ser His	Thr Gln Gly	Tyr Arg Thr	Val Gln Leu	Val Trp Lys Thr>
2020	2030	2040	2050	2060
* * *	* * *	* * *	* * *	* * *
TTG CCT CCT	TTT GAA GCC	AAT GGA AAA	ATC TTG GAT	TAT GAA GTG ACT
Leu Pro Pro	Phe Glu Ala	Asn Gly Lys	Ile Leu Asp	Tyr Glu Val Thr>
2070	2080	2090	2100	2110
* * *	* * *	* * *	* * *	* * *
CTC ACA AGA	TGG AAA TCA	CAT TTA CAA	AAT TAC ACA	GTT AAT GCC ACA
Leu Thr Arg	Trp Lys Ser	His Leu Gln	Asn Tyr Thr	Val Asn Ala Thr>
2120	2130	2140	2150	2160
* * *	* * *	* * *	* * *	* * *
AAA CTG ACA	GTA AAT CTC	ACA AAT GAT	CGC TAT CTA	GCA ACC CTA ACA
Lys Leu Thr	Val Asn Leu	Thr Asn Asp	Arg Tyr Leu	Ala Thr Leu Thr>
2170	2180	2190	2200	
* * *	* * *	* * *	* * *	
GTA AGA AAT	CTT GTT GGC	AAA TCA GAT	GCA GCT GTT	TTA ACT ATC CCT
Val Arg Asn	Leu Val Gly	Lys Ser Asp	Ala Ala Val	Leu Thr Ile Pro>
2210	2220	2230	2240	2250
* * *	* * *	* * *	* * *	* * *
GCC TGT GAC	TTT CAA GCT	ACT CAC CCT	GTA ATG GAT	CTT AAA GCA TTC
Ala Cys Asp	Phe Gln Ala	Thr His Pro	Val Met Asp	Leu Lys Ala Phe>
2260	2270	2280	2290	2300
* * *	* * *	* * *	* * *	* * *
CCC AAA GAT	AAC ATG CTT	TGG GTG GAA	TGG ACT ACT	CCA AGG GAA TCT
Pro Lys Asp	Asn Met Leu	Trp Val Glu	Trp Thr Thr	Pro Arg Glu Ser>
2310	2320	2330	2340	2350
* * *	* * *	* * *	* * *	* * *
GTA AAG AAA	TAT ATA CTT	GAG TGG TGT	GTG TTA TCA	GAT AAA GCA CCC
Val Lys Lys	Tyr Ile Leu	Glu Trp Cys	Val Leu Ser	Asp Lys Ala Pro>
2360	2370	2380	2390	2400

Fig.24E.

32/59

```
*      *      *      *      *      *      *      *      *      *
TGT ATC ACA GAC TGG CAA CAA GAA GAT GGT ACC GTG CAT CGC ACC TAT
Cys Ile Thr Asp Trp Gln Gln Glu Asp Gly Thr Val His Arg Thr Tyr>

      2410      2420      2430      2440
      *      *      *      *      *      *      *      *
TTA AGA GGG AAC TTA GCA GAG AGC AAA TGC TAT TTG ATA ACA GTT ACT
Leu Arg Gly Asn Leu Ala Glu Ser Lys Cys Tyr Leu Ile Thr Val Thr>

2450      2460      2470      2480      2490
*      *      *      *      *      *      *      *
CCA GTA TAT GCT GAT GGA CCA GGA AGC CCT GAA TCC ATA AAG GCA TAC
Pro Val Tyr Ala Asp Gly Pro Gly Ser Pro Glu Ser Ile Lys Ala Tyr>

      2500      2510      2520      2530      2540
      *      *      *      *      *      *      *      *
CTT AAA CAA GCT CCA CCT TCC AAA GGA CCT ACT GTT CGG ACA AAA AAA
Leu Lys Gln Ala Pro Pro Ser Lys Gly Pro Thr Val Arg Thr Lys Lys>

      2550      2560      2570      2580      2590
      *      *      *      *      *      *      *      *
GTA GGG AAA AAC GAA GCT GTC TTA GAG TGG GAC CAA CTT CCT GTT GAT
Val Gly Lys Asn Glu Ala Val Leu Glu Trp Asp Gln Leu Pro Val Asp>

      2600      2610      2620      2630      2640
      *      *      *      *      *      *      *      *
GTT CAG AAT GGA TTT ATC AGA AAT TAT ACT ATA TTT TAT AGA ACC ATC
Val Gln Asn Gly Phe Ile Arg Asn Tyr Thr Ile Phe Tyr Arg Thr Ile>

      2650      2660      2670      2680
      *      *      *      *      *      *      *      *
ATT GGA AAT GAA ACT GCT GTG AAT GTG GAT TCT TCC CAC ACA GAA TAT
Ile Gly Asn Glu Thr Ala Val Asn Val Asp Ser Ser His Thr Glu Tyr>

2690      2700      2710      2720      2730
*      *      *      *      *      *      *      *
ACA TTG TCC TCT TTG ACT AGT GAC ACA TTG TAC ATG GTA CGA ATG GCA
Thr Leu Ser Ser Leu Thr Ser Asp Thr Leu Tyr Met Val Arg Met Ala>

      2740      2750      2760      2770      2780
      *      *      *      *      *      *      *      *
GCA TAC ACA GAT GAA GGT GGG AAG GAT GGT CCA GAA TTC ACT TTT ACT
Ala Tyr Thr Asp Glu Gly Gly Lys Asp Gly Pro Glu Phe Thr Phe Thr>

      2790      2800      2810      2820      2830
      *      *      *      *      *      *      *      *
ACC CCA AAG TTT GCT CAA GGA GAA ATT GAA TCC GGG GGC GAC AAA ACT
Thr Pro Lys Phe Ala Gln Gly Glu Ile Glu Ser Gly Gly Asp Lys Thr>

      2840      2850      2860      2870      2880
      *      *      *      *      *      *      *      *
CAC ACA TGC CCA CCG TGC CCA GCA CCT GAA CTC CTG GGG GGA CCG TCA
His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser>

      2890      2900      2910      2920
      *      *      *      *      *      *      *      *
GTC TTC CTC TTC CCC CCA AAA CCC AAG GAC ACC CTC ATG ATC TCC CGG
Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg>

2930      2940      2950      2960      2970
*      *      *      *      *      *      *      *
ACC CCT GAG GTC ACA TGC GTG GTG GTG GAC GTG AGC CAC GAA GAC CCT
```


Fig.24F.

33/59

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro>
2980 2990 3000 3010 3020
* * * * * * *
GAG GTC AAG TTC AAC TGG TAC GTG GAC GGC GTG GAG GTG CAT AAT GCC
Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala>
3030 3040 3050 3060 3070
* * * * * * *
AAG ACA AAG CCG CGG GAG GAG CAG TAC AAC AGC ACG TAC CGT GTG GTC
Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val>
3080 3090 3100 3110 3120
* * * * * * *
AGC GTC CTC ACC GTC CTG CAC CAG GAC TGG CTG AAT GGC AAG GAG TAC
Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr>
3130 3140 3150 3160
* * * * * * *
AAG TGC AAG GTC TCC AAC AAA GCC CTC CCA GCC CCC ATC GAG AAA ACC
Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr>
3170 3180 3190 3200 3210
* * * * * * *
ATC TCC AAA GCC AAA GGG CAG CCC CGA GAA CCA CAG GTG TAC ACC CTG
Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu>
3220 3230 3240 3250 3260
* * * * * * *
CCC CCA TCC CGG GAT GAG CTG ACC AAG AAC CAG GTC AGC CTG ACC TGC
Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys>
3270 3280 3290 3300 3310
* * * * * * *
CTG GTC AAA GGC TTC TAT CCC AGC GAC ATC GCC GTG GAG TGG GAG AGC
Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser>
3320 3330 3340 3350 3360
* * * * * * *
AAT GGG CAG CCG GAG AAC AAC TAC AAG ACC ACG CCT CCC GTG CTG GAC
Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp>
3370 3380 3390 3400
* * * * * * *
TCC GAC GGC TCC TTC TTC CTC TAC AGC AAG CTC ACC GTG GAC AAG AGC
Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser>
3410 3420 3430 3440 3450
* * * * * * *
AGG TGG CAG CAG GGG AAC GTC TTC TCA TGC TCC GTG ATG CAT GAG GCT
Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala>
3460 3470 3480 3490 3500
* * * * * * *
CTG CAC AAC CAC TAC ACG CAG AAG AGC CTC TCC CTG TCT CCG GGT AAA
Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys>
*
TGA
***>

Fig.25A.

34/59

10 20 30 40
 * * * * *
 ATG GTG GCC GTC GGC TGC GCG CTG CTG GCT GCC CTG CTG GCC GCG CCG
 Met Val Ala Val Gly Cys Ala Leu Leu Ala Ala Leu Leu Ala Ala Pro>

50 60 70 80 90
 * * * * *
 GGA GCG GCG CTG GCC CCA AGG CGC TGC CCT GCG CAG GAG GTG GCA AGA
 Gly Ala Ala Leu Ala Pro Arg Arg Cys Pro Ala Gln Glu Val Ala Arg>

100 110 120 130 140
 * * * * *
 GGC GTG CTG ACC AGT CTG CCA GGA GAC AGC GTG ACT CTG ACC TGC CCG
 Gly Val Leu Thr Ser Leu Pro Gly Asp Ser Val Thr Leu Thr Cys Pro>

150 160 170 180 190
 * * * * *
 GGG GTA GAG CCG GAA GAC AAT GGC ACT GTT CAC TGG GTG CTC AGG AAG
 Gly Val Glu Pro Glu Asp Asn Ala Thr Val His Trp Val Leu Arg Lys>

200 210 220 230 240
 * * * * *
 CCG GCT GCA GGC TCC CAC CCC AGC AGA TGG GCT GGC ATG GGA AGG AGG
 Pro Ala Ala Gly Ser His Pro Ser Arg Trp Ala Gly Met Gly Arg Arg>

250 260 270 280
 * * * * *
 CTG CTG CTG AGG TCG GTG CAG CTC CAC GAC TCT GGA AAC TAT TCA TGC
 Leu Leu Leu Arg Ser Val Gln Leu His Asp Ser Gly Asn Tyr Ser Cys>

290 300 310 320 330
 * * * * *
 TAC CGG GCC GGC CGC CCA GCT GGG ACT GTG CAC TTG CTG GTG GAT GTT
 Tyr Arg Ala Gly Arg Pro Ala Gly Thr Val His Leu Leu Val Asp Val>

340 350 360 370 380
 * * * * *
 CCC CCC GAG GAG CCC CAG CTC TCC TGC TTC CGG AAG AGC CCC CTC AGC
 Pro Pro Glu Glu Pro Gln Leu Ser Cys Phe Arg Lys Ser Pro Leu Ser>

390 400 410 420 430
 * * * * *
 AAT GTT GTT TGT GAG TGG GGT CCT CGG AGC ACC CCA TCC CTG ACG ACA
 Asn Val Val Cys Glu Trp Gly Pro Arg Ser Thr Pro Ser Leu Thr Thr>

440 450 460 470 480
 * * * * *
 AAG GCT GTG CTC TTG GTG AGG AAG TTT CAG AAC AGT CCG GCC GAA GAC
 Lys Ala Val Leu Leu Val Arg Lys Phe Gln Asn Ser Pro Ala Glu Asp>

490 500 510 520
 * * * * *
 TTC CAG GAG CCG TGC CAG TAT TCC CAG GAG TCC CAG AAG TTC TCC TGC
 Phe Gln Glu Pro Cys Gln Tyr Ser Gln Glu Ser Gln Lys Phe Ser Cys>

530 540 550 560 570
 * * * * *
 CAG TTA GCA GTC CCG GAG GGA GAC AGC TCT TTC TAC ATA GTG TCC ATG
 Gln Leu Ala Val Pro Glu Gly Asp Ser Ser Phe Tyr Ile Val Ser Met>

Fig.25B.

35/59

```
580      590      600      610      620
*        *        *        *        *
TGC GTC GCC AGT AGT GTC GGG AGC AAG TTC AGC AAA ACT CAA ACC TTT
Cys Val Ala Ser Ser Val Gly Ser Lys Phe Ser Lys Thr Gln Thr Phe>

630      640      650      660      670
*        *        *        *        *
CAG GGT TGT GGA ATC TTG CAG CCT GAT CCG CCT GCC AAC ATC ACA GTC
Gln Gly Cys Gly Ile Leu Gln Pro Asp Pro Pro Ala Asn Ile Thr Val>

680      690      700      710      720
*        *        *        *        *
ACT GCC GTG GCC AGA AAC CCC CGC TGG CTC AGT GTC ACC TGG CAA GAC
Thr Ala Val Ala Arg Asn Pro Arg Trp Leu Ser Val Thr Trp Gln Asp>

730      740      750      760
*        *        *        *        *
CCC CAC TCC TGG AAC TCA TCT TTC TAC AGA CTA CGG TTT GAG CTC AGA
Pro His Ser Trp Asn Ser Ser Phe Tyr Arg Leu Arg Phe Glu Leu Arg>

770      780      790      800      810
*        *        *        *        *
TAT CGG GCT GAA CGG TCA AAG ACA TTC ACA ACA TGG ATG GTC AAG GAC
Tyr Arg Ala Glu Arg Ser Lys Thr Phe Thr Thr Trp Met Val Lys Asp>

820      830      840      850      860
*        *        *        *        *
CTC CAG CAT CAC TGT GTC ATC CAC GAC GCC TGG AGC GGC CTG AGG CAC
Leu Gln His His Cys Val Ile His Asp Ala Trp Ser Gly Leu Arg His>

870      880      890      900      910
*        *        *        *        *
GTG GTG CAG CTT CGT GCC CAG GAG GAG TTC GGG CAA GGC GAG TGG AGC
Val Val Gln Leu Arg Ala Gln Glu Glu Phe Gly Gln Gly Glu Trp Ser>

920      930      940      950      960
*        *        *        *        *
GAG TGG AGC CCG GAG GCC ATG GGC ACG CCT TGG ACA GAA TCG CGA TCG
Glu Trp Ser Pro Glu Ala Met Gly Thr Pro Trp Thr Glu Ser Arg Ser>

970      980      990      1000
*        *        *        *        *
CCT CCA GCT GAG AAC GAG GTG TCC ACC CCC ATG GAA CTT CTA GAC CCA
Pro Pro Ala Glu Asn Glu Val Ser Thr Pro Met Glu Leu Leu Asp Pro>

1010      1020      1030      1040      1050
*        *        *        *        *
TGT GGT TAT ATC AGT CCT GAA TCT CCA GTT GTA CAA CTT CAT TCT AAT
Cys Gly Tyr Ile Ser Pro Glu Ser Pro Val Val Gln Leu His Ser Asn>

1060      1070      1080      1090      1100
*        *        *        *        *
TTC ACT GCA GTT TGT GTG CTA AAG GAA AAA TGT ATG GAT TAT TTT CAT
Phe Thr Ala Val Cys Val Leu Lys Glu Lys Cys Met Asp Tyr Phe His>

1110      1120      1130      1140      1150
*        *        *        *        *
GTA AAT GCT AAT TAC ATT GTC TGG AAA ACA AAC CAT TTT ACT ATT CCT
Val Asn Ala Asn Tyr Ile Val Trp Lys Thr Asn His Phe Thr Ile Pro>

1160      1170      1180      1190      1200
*        *        *        *        *
```

Fig.25C.

36/59

AAG GAG CAA TAT ACT ATC ATA AAC AGA ACA GCA TCC AGT GTC ACC TTT
 Lys Glu Gln Tyr Thr Ile Ile Asn Arg Thr Ala Ser Ser Val Thr Phe>

1210 1220 1230 1240
 * * * * *
 ACA GAT ATA GCT TCA TTA AAT ATT CAG CTC ACT TGC AAC ATT CTT ACA
 Thr Asp Ile Ala Ser Leu Asn Ile Gln Leu Thr Cys Asn Ile Leu Thr>

1250 1260 1270 1280 1290
 * * * * *
 TTC GGA CAG CTT GAA CAG AAT GTT TAT GGA ATC ACA ATA ATT TCA GGC
 Phe Gly Gln Leu Glu Gln Asn Val Tyr Gly Ile Thr Ile Ile Ser Gly>

1300 1310 1320 1330 1340
 * * * * *
 TTG CCT CCA GAA AAA CCT AAA AAT TTG AGT TGC ATT GTG AAC GAG GGG
 Leu Pro Pro Glu Lys Pro Lys Asn Leu Ser Cys Ile Val Asn Glu Gly>

1350 1360 1370 1380 1390
 * * * * *
 AAG AAA ATG AGG TGT GAG TGG GAT GGT GGA AGG GAA ACA CAC TTG GAG
 Lys Lys Met Arg Cys Glu Trp Asp Gly Gly Arg Glu Thr His Leu Glu>

1400 1410 1420 1430 1440
 * * * * *
 ACA AAC TTC ACT TTA AAA TCT GAA TGG GCA ACA CAC AAG TTT GCT GAT
 Thr Asn Phe Thr Leu Lys Ser Glu Trp Ala Thr His Lys Phe Ala Asp>

1450 1460 1470 1480
 * * * * *
 TGC AAA GCA AAA CGT GAC ACC CCC ACC TCA TGC ACT GTT GAT TAT TCT
 Cys Lys Ala Lys Arg Asp Thr Pro Thr Ser Cys Thr Val Asp Tyr Ser>

1490 1500 1510 1520 1530
 * * * * *
 ACT GTG TAT TTT GTC AAC ATT GAA GTC TGG GTA GAA GCA GAG AAT GCC
 Thr Val Tyr Phe Val Asn Ile Glu Val Trp Val Glu Ala Glu Asn Ala>

1540 1550 1560 1570 1580
 * * * * *
 CTT GGG AAG GTT ACA TCA GAT CAT ATC AAT TTT GAT CCT GTA TAT AAA
 Leu Gly Lys Val Thr Ser Asp His Ile Asn Phe Asp Pro Val Tyr Lys>

1590 1600 1610 1620 1630
 * * * * *
 GTG AAG CCC AAT CCG CCA CAT AAT TTA TCA GTG ATC AAC TCA GAG GAA
 Val Lys Pro Asn Pro Pro His Asn Leu Ser Val Ile Asn Ser Glu Glu>

1640 1650 1660 1670 1680
 * * * * *
 CTG TCT AGT ATC TTA AAA TTG ACA TGG ACC AAC CCA AGT ATT AAG AGT
 Leu Ser Ser Ile Leu Lys Leu Thr Trp Thr Asn Pro Ser Ile Lys Ser>

1690 1700 1710 1720
 * * * * *
 GTT ATA ATA CTA AAA TAT AAC ATT CAA TAT AGG ACC AAA GAT GCC TCA
 Val Ile Ile Leu Lys Tyr Asn Ile Gln Tyr Arg Thr Lys Asp Ala Ser>

1730 1740 1750 1760 1770
 * * * * *
 ACT TGG AGC CAG ATT CCT CCT GAA GAC ACA GCA TCC ACC CGA TCT TCA
 Thr Trp Ser Gln Ile Pro Pro Glu Asp Thr Ala Ser Thr Arg Ser Ser>

Fig.25D.

37/59

1780	1790	1800	1810	1820
* * *	* * *	* * *	* * *	* * *
TTC ACT GTC CAA GAC CTT AAA CCT TTT ACA GAA TAT GTG TTT AGG ATT				
Phe Thr Val Gln Asp Leu Lys Pro Phe Thr Glu Tyr Val Phe Arg Ile>				
1830	1840	1850	1860	1870
* * *	* * *	* * *	* * *	* * *
CGC TGT ATG AAG GAA GAT GGT AAG GGA TAC TGG AGT GAC TGG AGT GAA				
Arg Cys Met Lys Glu Asp Gly Lys Gly Tyr Trp Ser Asp Trp Ser Glu>				
1880	1890	1900	1910	1920
* * *	* * *	* * *	* * *	* * *
GAA GCA AGT GGG ATC ACC TAT GAA GAT AGA CCA TCT AAA GCA CCA AGT				
Glu Ala Ser Gly Ile Thr Tyr Glu Asp Arg Pro Ser Lys Ala Pro Ser>				
1930	1940	1950	1960	
* * *	* * *	* * *	* * *	
TTC TGG TAT AAA ATA GAT CCA TCC CAT ACT CAA GGC TAC AGA ACT GTA				
Phe Trp Tyr Lys Ile Asp Pro Ser His Thr Gln Gly Tyr Arg Thr Val>				
1970	1980	1990	2000	2010
* * *	* * *	* * *	* * *	* * *
CAA CTC GTG TGG AAG ACA TTG CCT CCT TTT GAA GCC AAT GGA AAA ATC				
Gln Leu Val Trp Lys Thr Leu Pro Pro Phe Glu Ala Asn Gly Lys Ile>				
2020	2030	2040	2050	2060
* * *	* * *	* * *	* * *	* * *
TTG GAT TAT GAA GTG ACT CTC ACA AGA TGG AAA TCA CAT TTA CAA AAT				
Leu Asp Tyr Glu Val Thr Leu Thr Arg Trp Lys Ser His Leu Gln Asn>				
2070	2080	2090	2100	2110
* * *	* * *	* * *	* * *	* * *
TAC ACA GTT AAT GCC ACA AAA CTG ACA GTA AAT CTC ACA AAT GAT CGC				
Tyr Thr Val Asn Ala Thr Lys Leu Thr Val Asn Leu Thr Asn Asp Arg>				
2120	2130	2140	2150	2160
* * *	* * *	* * *	* * *	* * *
TAT CTA GCA ACC CTA ACA GTA AGA AAT CTT GTT GGC AAA TCA GAT GCA				
Tyr Leu Ala Thr Leu Thr Val Arg Asn Leu Val Gly Lys Ser Asp Ala>				
2170	2180	2190	2200	
* * *	* * *	* * *	* * *	
GCT GTT TTA ACT ATC CCT GCC TGT GAC TTT CAA GCT ACT CAC CCT GTA				
Ala Val Leu Thr Ile Pro Ala Cys Asp Phe Gln Ala Thr His Pro Val>				
2210	2220	2230	2240	2250
* * *	* * *	* * *	* * *	* * *
ATG GAT CTT AAA GCA TTC CCC AAA GAT AAC ATG CTT TGG GTG GAA TGG				
Met Asp Leu Lys Ala Phe Pro Lys Asp Asn Met Leu Trp Val Glu Trp>				
2260	2270	2280	2290	2300
* * *	* * *	* * *	* * *	* * *
ACT ACT CCA AGG GAA TCT GTA AAG AAA TAT ATA CTT GAG TGG TGT GTG				
Thr Thr Pro Arg Glu Ser Val Lys Lys Tyr Ile Leu Glu Trp Cys Val>				
2310	2320	2330	2340	2350
* * *	* * *	* * *	* * *	* * *
TTA TCA GAT AAA GCA CCC TGT ATC ACA GAC TGG CAA CAA GAA GAT GGT				
Leu Ser Asp Lys Ala Pro Cys Ile Thr Asp Trp Gln Gln Glu Asp Gly>				
2360	2370	2380	2390	2400

Fig.25E.

38/59

```

*      *      *      *      *      *      *      *      *
ACC GTG CAT CGC ACC TAT TTA AGA GGG AAC TTA GCA GAG AGC AAA TGC
Thr Val His Arg Thr Tyr Leu Arg Gly Asn Leu Ala Glu Ser Lys Cys>

      2410      2420      2430      2440
*      *      *      *      *      *      *      *
TAT TTG ATA ACA GTT ACT CCA GTA TAT GCT GAT GGA CCA GGA AGC CCT
Tyr Leu Ile Thr Val Thr Pro Val Tyr Ala Asp Gly Pro Gly Ser Pro>

2450      2460      2470      2480      2490
*      *      *      *      *      *      *      *
GAA TCC ATA AAG GCA TAC CTT AAA CAA GCT CCA CCT TCC AAA GGA CCT
Glu Ser Ile Lys Ala Tyr Leu Lys Gln Ala Pro Pro Ser Lys Gly Pro>

      2500      2510      2520      2530      2540
*      *      *      *      *      *      *      *
ACT GTT CGG ACA AAA AAA GTA GGG AAA AAC GAA GCT GTC TTA GAG TGG
Thr Val Arg Thr Lys Lys Val Gly Lys Asn Glu Ala Val Leu Glu Trp>

      2550      2560      2570      2580      2590
*      *      *      *      *      *      *      *
GAC CAA CTT CCT GTT GAT GTT CAG AAT GGA TTT ATC AGA AAT TAT ACT
Asp Gln Leu Pro Val Asp Val Gln Asn Gly Phe Ile Arg Asn Tyr Thr>

      2600      2610      2620      2630      2640
*      *      *      *      *      *      *      *
ATA TTT TAT AGA ACC ATC ATT GGA AAT GAA ACT GCT GTG AAT GTG GAT
Ile Phe Tyr Arg Thr Ile Ile Gly Asn Glu Thr Ala Val Asn Val Asp>

      2650      2660      2670      2680
*      *      *      *      *      *      *      *
TCT TCC CAC ACA GAA TAT ACA TTG TCC TCT TTG ACT AGT GAC ACA TTG
Ser Ser His Thr Glu Tyr Thr Leu Ser Ser Leu Thr Ser Asp Thr Leu>

2690      2700      2710      2720      2730
*      *      *      *      *      *      *      *
TAC ATG GTA CGA ATG GCA GCA TAC ACA GAT GAA GGT GGG AAG GAT GGT
Tyr Met Val Arg Met Ala Ala Tyr Thr Asp Glu Gly Gly Lys Asp Gly>

      2740      2750      2760      2770      2780
*      *      *      *      *      *      *      *
CCA GAA TTC ACT TTT ACT ACC CCA AAG TTT GCT CAA GGA GAA ATT GAA
Pro Glu Phe Thr Phe Thr Thr Pro Lys Phe Ala Gln Gly Glu Ile Glu>

      2790      2800      2810      2820      2830
*      *      *      *      *      *      *      *
TCC GGG GGC GAC AAA ACT CAC ACA TGC CCA CCG TGC CCA GCA CCT GAA
Ser Gly Gly Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu>

      2840      2850      2860      2870      2880
*      *      *      *      *      *      *      *
CTC CTG GGG GGA CCG TCA GTC TTC CTC TTC CCC CCA AAA CCC AAG GAC
Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp>

      2890      2900      2910      2920
*      *      *      *      *      *      *      *
ACC CTC ATG ATC TCC CGG ACC CCT GAG GTC ACA TGC GTG GTG GTG GAC
Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp>

2930      2940      2950      2960      2970
*      *      *      *      *      *      *      *
GTG AGC CAC GAA GAC CCT GAG GTC AAG TTC AAC TGG TAC GTG GAC GGC

```


Fig.25F.

39/59

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly>
2980 2990 3000 3010 3020
* * * * * *
GTG GAG GTG CAT AAT GCC AAG ACA AAG CCG CGG GAG GAG CAG TAC AAC
Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn>
3030 3040 3050 3060 3070
* * * * * *
AGC ACG TAC CGT GTG GTC AGC GTC CTC ACC GTC CTG CAC CAG GAC TGG
Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp>
3080 3090 3100 3110 3120
* * * * * *
CTG AAT GGC AAG GAG TAC AAG TGC AAG GTC TCC AAC AAA GCC CTC CCA
Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro>
3130 3140 3150 3160
* * * * * *
GCC CCC ATC GAG AAA ACC ATC TCC AAA GCC AAA GGG CAG CCC CGA GAA
Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu>
3170 3180 3190 3200 3210
* * * * * *
CCA CAG GTG TAC ACC CTG CCC CCA TCC CGG GAT GAG CTG ACC AAG AAC
Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn>
3220 3230 3240 3250 3260
* * * * * *
CAG GTC AGC CTG ACC TGC CTG GTC AAA GGC TTC TAT CCC AGC GAC ATC
Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile>
3270 3280 3290 3300 3310
* * * * * *
GCC GTG GAG TGG GAG AGC AAT GGG CAG CCG GAG AAC AAC TAC AAG ACC
Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr>
3320 3330 3340 3350 3360
* * * * * *
ACG CCT CCC GTG CTG GAC TCC GAC GGC TCC TTC TTC CTC TAC AGC AAG
Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys>
3370 3380 3390 3400
* * * * * *
CTC ACC GTG GAC AAG AGC AGG TGG CAG CAG GGG AAC GTC TTC TCA TGC
Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys>
3410 3420 3430 3440 3450
* * * * * *
TCC GTG ATG CAT GAG GCT CTG CAC AAC CAC TAC ACG CAG AAG AGC CTC
Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu>
3460 3470
* * * *
TCC CTG TCT CCG GGT AAA TGA
Ser Leu Ser Pro Gly Lys ***>

40/59

530			540			550			560			570			
*		*	*		*	*		*	*		*	*		*	*
TGG	TAT	ATG	GGC	TGT	TAT	AAA	ATA	CAG	AAT	TTT	AAT	AAT	GTA	ATA	CCC
Trp	Tyr	Met	Gly	Cys	Tyr	Lys	Ile	Gln	Asn	Phe	Asn	Asn	Val	Ile	Pro>

Fig.26B.

41/59

```
580      590      600      610      620
*        *        *        *        *
GAA GGT ATG AAC TTG AGT TTC CTC ATT GCC TTA ATT TCA AAT AAT GGA
Glu Gly Met Asn Leu Ser Phe Leu Ile Ala Leu Ile Ser Asn Asn Gly>

630      640      650      660      670
*        *        *        *        *
AAT TAC ACA TGT GTT GTT ACA TAT CCA GAA AAT GGA CGT ACG TTT CAT
Asn Tyr Thr Cys Val Val Thr Tyr Pro Glu Asn Gly Arg Thr Phe His>

680      690      700      710      720
*        *        *        *        *
CTC ACC AGG ACT CTG ACT GTA AAG GTA GTA GGC TCT CCA AAA AAT GCA
Leu Thr Arg Thr Leu Thr Val Lys Val Val Gly Ser Pro Lys Asn Ala>

730      740      750      760
*        *        *        *
GTG CCC CCT GTG ATC CAT TCA CCT AAT GAT CAT GTG GTC TAT GAG AAA
Val Pro Pro Val Ile His Ser Pro Asn Asp His Val Val Tyr Glu Lys>

770      780      790      800      810
*        *        *        *        *
GAA CCA GGA GAG GAG CTA CTC ATT CCC TGT ACG GTC TAT TTT AGT TTT
Glu Pro Gly Glu Glu Leu Leu Ile Pro Cys Thr Val Tyr Phe Ser Phe>

820      830      840      850      860
*        *        *        *        *
CTG ATG GAT TCT CGC AAT GAG GTT TGG TGG ACC ATT GAT GGA AAA AAA
Leu Met Asp Ser Arg Asn Glu Val Trp Trp Thr Ile Asp Gly Lys Lys>

870      880      890      900      910
*        *        *        *        *
CCT GAT GAC ATC ACT ATT GAT GTC ACC ATT AAC GAA AGT ATA AGT CAT
Pro Asp Asp Ile Thr Ile Asp Val Thr Ile Asn Glu Ser Ile Ser His>

920      930      940      950      960
*        *        *        *        *
AGT AGA ACA GAA GAT GAA ACA AGA ACT CAG ATT TTG AGC ATC AAG AAA
Ser Arg Thr Glu Asp Glu Thr Arg Thr Gln Ile Leu Ser Ile Lys Lys>

970      980      990      1000
*        *        *        *
GTT ACC TCT GAG GAT CTC AAG CGC AGC TAT GTC TGT CAT GCT AGA AGT
Val Thr Ser Glu Asp Leu Lys Arg Ser Tyr Val Cys His Ala Arg Ser>

1010      1020      1030      1040      1050
*        *        *        *        *
GCC AAA GGC GAA GTT GCC AAA GCA GCC AAG GTG AAG CAG AAA GTG CCA
Ala Lys Gly Glu Val Ala Lys Ala Ala Lys Val Lys Gln Lys Val Pro>

1060      1070      1080      1090      1100
*        *        *        *        *
GCT CCA AGA TAC ACA GTG TCC GGT GGC GCG CCT ATG CTG AGC GAG GCT
Ala Pro Arg Tyr Thr Val Ser Gly Gly Ala Pro Met Leu Ser Glu Ala>

1110      1120      1130      1140      1150
*        *        *        *        *
GAT AAA TGC AAG GAA CGT GAA GAA AAA ATA ATT TTA GTG TCA TCT GCA
Asp Lys Cys Lys Glu Arg Glu Glu Lys Ile Ile Leu Val Ser Ser Ala>

1160      1170      1180      1190      1200
*        *        *        *        *
```

42/59

Fig.26C.

```
AAT GAA ATT GAT GTT CGT CCC TGT CCT CTT AAC CCA AAT GAA CAC AAA
Asn Glu Ile Asp Val Arg Pro Cys Pro Leu Asn Pro Asn Glu His Lys>

      1210      1220      1230      1240
      *        *        *        *
GGC ACT ATA ACT TGG TAT AAG GAT GAC AGC AAG ACA CCT GTA TCT ACA
Gly Thr Ile Thr Trp Tyr Lys Asp Asp Ser Lys Thr Pro Val Ser Thr>

1250      1260      1270      1280      1290
*        *        *        *        *
GAA CAA GCC TCC AGG ATT CAT CAA CAC AAA GAG AAA CTT TGG TTT GTT
Glu Gln Ala Ser Arg Ile His Gln His Lys Glu Lys Leu Trp Phe Val>

      1300      1310      1320      1330      1340
      *        *        *        *        *
CCT GCT AAG GTG GAG GAT TCA GGA CAT TAC TAT TGC GTG GTA AGA AAT
Pro Ala Lys Val Glu Asp Ser Gly His Tyr Tyr Cys Val Val Arg Asn>

      1350      1360      1370      1380      1390
      *        *        *        *        *
TCA TCT TAC TGC CTC AGA ATT AAA ATA AGT GCA AAA TTT GTG GAG AAT
Ser Ser Tyr Cys Leu Arg Ile Lys Ile Ser Ala Lys Phe Val Glu Asn>

      1400      1410      1420      1430      1440
      *        *        *        *        *
GAG CCT AAC TTA TGT TAT AAT GCA CAA GCC ATA TTT AAG CAG AAA CTA
Glu Pro Asn Leu Cys Tyr Asn Ala Gln Ala Ile Phe Lys Gln Lys Leu>

      1450      1460      1470      1480
      *        *        *        *
CCC GTT GCA GGA GAC GGA GGA CTT GTG TGC CCT TAT ATG GAG TTT TTT
Pro Val Ala Gly Asp Gly Gly Leu Val Cys Pro Tyr Met Glu Phe Phe>

1490      1500      1510      1520      1530
*        *        *        *        *
AAA AAT GAA AAT AAT GAG TTA CCT AAA TTA CAG TGG TAT AAG GAT TGC
Lys Asn Glu Asn Asn Glu Leu Pro Lys Leu Gln Trp Tyr Lys Asp Cys>

      1540      1550      1560      1570      1580
      *        *        *        *        *
AAA CCT CTA CTT CTT GAC AAT ATA CAC TTT AGT GGA GTC AAA GAT AGG
Lys Pro Leu Leu Leu Asp Asn Ile His Phe Ser Gly Val Lys Asp Arg>

      1590      1600      1610      1620      1630
      *        *        *        *        *
CTC ATC GTG ATG AAT GTG GCT GAA AAG CAT AGA GGG AAC TAT ACT TGT
Leu Ile Val Met Asn Val Ala Glu Lys His Arg Gly Asn Tyr Thr Cys>

      1640      1650      1660      1670      1680
      *        *        *        *        *
CAT GCA TCC TAC ACA TAC TTG GGC AAG CAA TAT CCT ATT ACC CGG GTA
His Ala Ser Tyr Thr Tyr Leu Gly Lys Gln Tyr Pro Ile Thr Arg Val>

      1690      1700      1710      1720
      *        *        *        *
ATA GAA TTT ATT ACT CTA GAG GAA AAC AAA CCC ACA AGG CCT GTG ATT
Ile Glu Phe Ile Thr Leu Glu Glu Asn Lys Pro Thr Arg Pro Val Ile>

1730      1740      1750      1760      1770
*        *        *        *        *
GTG AGC CCA GCT AAT GAG ACA ATG GAA GTA GAC TTG GGA TCC CAG ATA
Val Ser Pro Ala Asn Glu Thr Met Glu Val Asp Leu Gly Ser Gln Ile>
```

Fig.26D.

43/59

```
1780      1790      1800      1810      1820
*         *         *         *         *
CAA TTG ATC TGT AAT GTC ACC GGC CAG TTG AGT GAC ATT GCT TAC TGG
Gln Leu Ile Cys Asn Val Thr Gly Gln Leu Ser Asp Ile Ala Tyr Trp>

1830      1840      1850      1860      1870
*         *         *         *         *
AAG TGG AAT GGG TCA GTA ATT GAT GAA GAT GAC CCA GTG CTA GGG GAA
Lys Trp Asn Gly Ser Val Ile Asp Glu Asp Asp Pro Val Leu Gly Glu>

1880      1890      1900      1910      1920
*         *         *         *         *
GAC TAT TAC AGT GTG GAA AAT CCT GCA AAC AAA AGA AGG AGT ACC CTC
Asp Tyr Tyr Ser Val Glu Asn Pro Ala Asn Lys Arg Arg Ser Thr Leu>

1930      1940      1950      1960
*         *         *         *
ATC ACA GTG CTT AAT ATA TCG GAA ATT GAG AGT AGA TTT TAT AAA CAT
Ile Thr Val Leu Asn Ile Ser Glu Ile Glu Ser Arg Phe Tyr Lys His>

1970      1980      1990      2000      2010
*         *         *         *         *
CCA TTT ACC TGT TTT GCC AAG AAT ACA CAT GGT ATA GAT GCA GCA TAT
Pro Phe Thr Cys Phe Ala Lys Asn Thr His Gly Ile Asp Ala Ala Tyr>

2020      2030      2040      2050      2060
*         *         *         *         *
ATC CAG TTA ATA TAT CCA GTC ACT AAT TCC GGA GAC AAA ACT CAC ACA
Ile Gln Leu Ile Tyr Pro Val Thr Asn Ser Gly Asp Lys Thr His Thr>

2070      2080      2090      2100      2110
*         *         *         *         *
TGC CCA CCG TGC CCA GCA CCT GAA CTC CTG GGG GGA CCG TCA GTC TTC
Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe>

2120      2130      2140      2150      2160
*         *         *         *         *
CTC TTC CCC CCA AAA CCC AAG GAC ACC CTC ATG ATC TCC CGG ACC CCT
Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro>

2170      2180      2190      2200
*         *         *         *
GAG GTC ACA TGC GTG GTG GTG GAC GTG AGC CAC GAA GAC CCT GAG GTC
Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val>

2210      2220      2230      2240      2250
*         *         *         *         *
AAG TTC AAC TGG TAC GTG GAC GGC GTG GAG GTG CAT AAT GCC AAG ACA
Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr>

2260      2270      2280      2290      2300
*         *         *         *         *
AAG CCG CCG GAG GAG CAG TAC AAC AGC ACG TAC CGT GTG GTC AGC GTC
Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val>

2310      2320      2330      2340      2350
*         *         *         *         *
CTC ACC GTC CTG CAC CAG GAC TGG CTG AAT GGC AAG GAG TAC AAG TGC
Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys>

2360      2370      2380      2390      2400
```

*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AAG	GTC	TCC	AAC	AAA	GCC	CTC	CCA	GCC	CCC	ATC	GAG	AAA	ACC	ATC	TCC
Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser>
		2410			2420			2430			2440				
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AAA	GCC	AAA	GGG	CAG	CCC	CGA	GAA	CCA	CAG	GTG	TAC	ACC	CTG	CCC	CCA
Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro>
2450		2460			2470			2480			2490				
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
TCC	CGG	GAG	GAG	ATG	ACC	AAG	AAC	CAG	GTC	AGC	CTG	ACC	TGC	CTG	GTC
Ser	Arg	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val>
	2500		2510		2520			2530			2540				
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AAA	GGC	TTC	TAT	CCC	AGC	GAC	ATC	GCC	GTG	GAG	TGG	GAG	AGC	AAT	GGG
Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly>
	2550		2560		2570			2580			2590				
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
CAG	CCG	GAG	AAC	AAC	TAC	AAG	ACC	ACG	CCT	CCC	GTG	CTG	GAC	TCC	GAC
Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp>
	2600		2610		2620			2630			2640				
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
GGC	TCC	TTC	TTC	CTC	TAT	AGC	AAG	CTC	ACC	GTG	GAC	AAG	AGC	AGG	TGG
Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp>
	2650		2660		2670			2680							
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
CAG	CAG	GGG	AAC	GTC	TTC	TCA	TGC	TCC	GTG	ATG	CAT	GAG	GCT	CTG	CAC
Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His>
2690		2700			2710			2720			2730				
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AAC	CAC	TAC	ACG	CAG	AAG	AGC	CTC	TCC	CTG	TCT	CCG	GGT	AAA	TGA	
Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly	Lys	***>	

45/59

Fig.27.

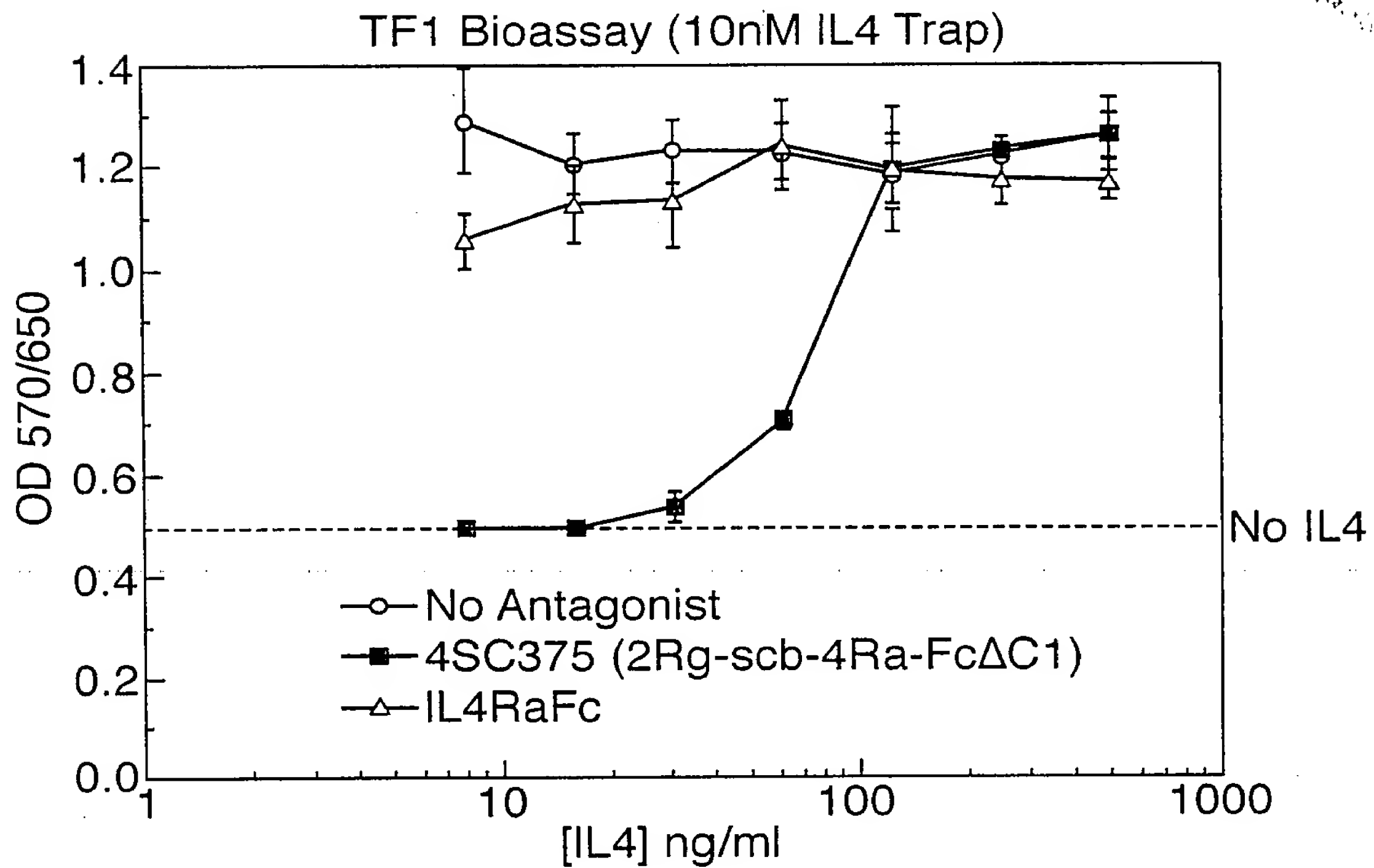
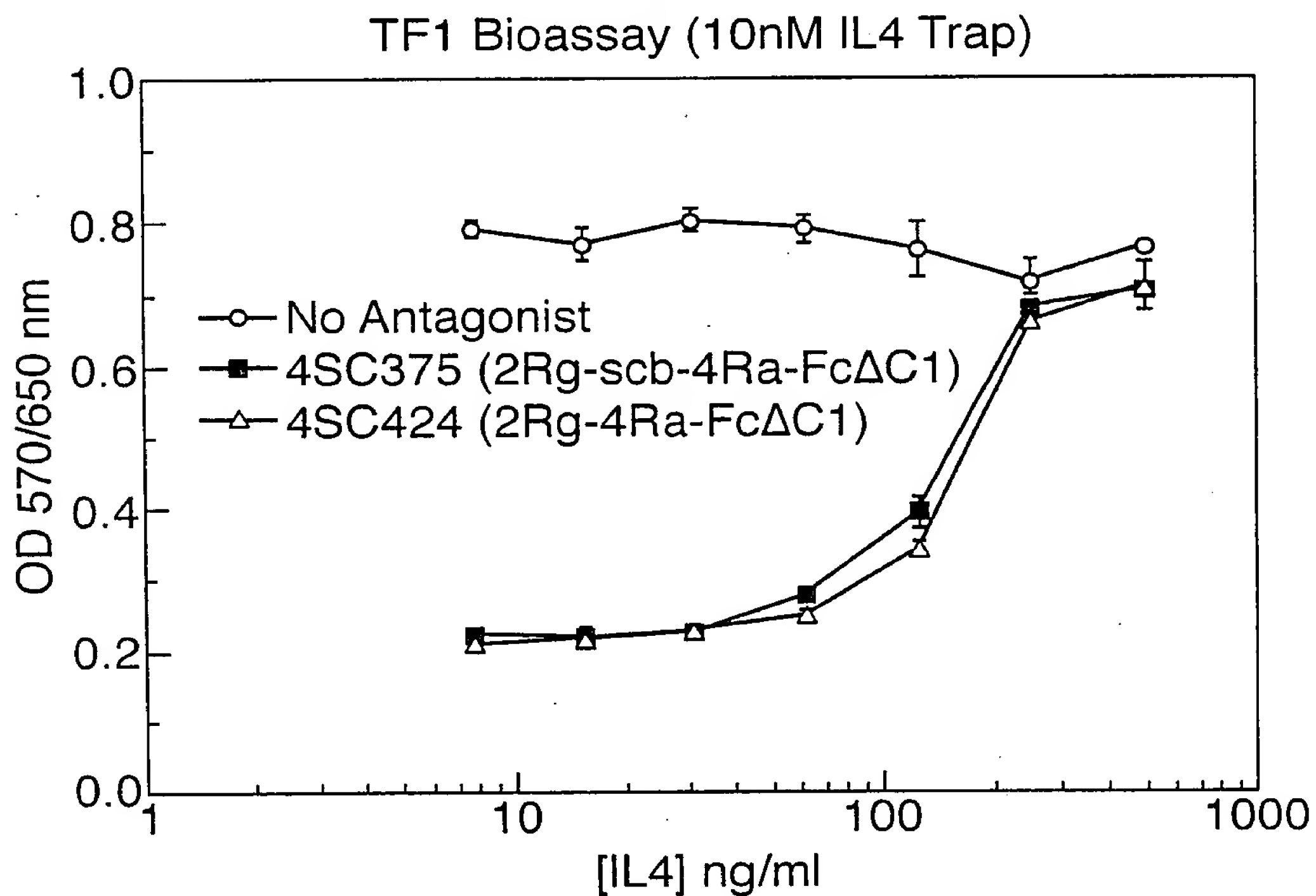


Fig.28.



46/59

Fig.29.

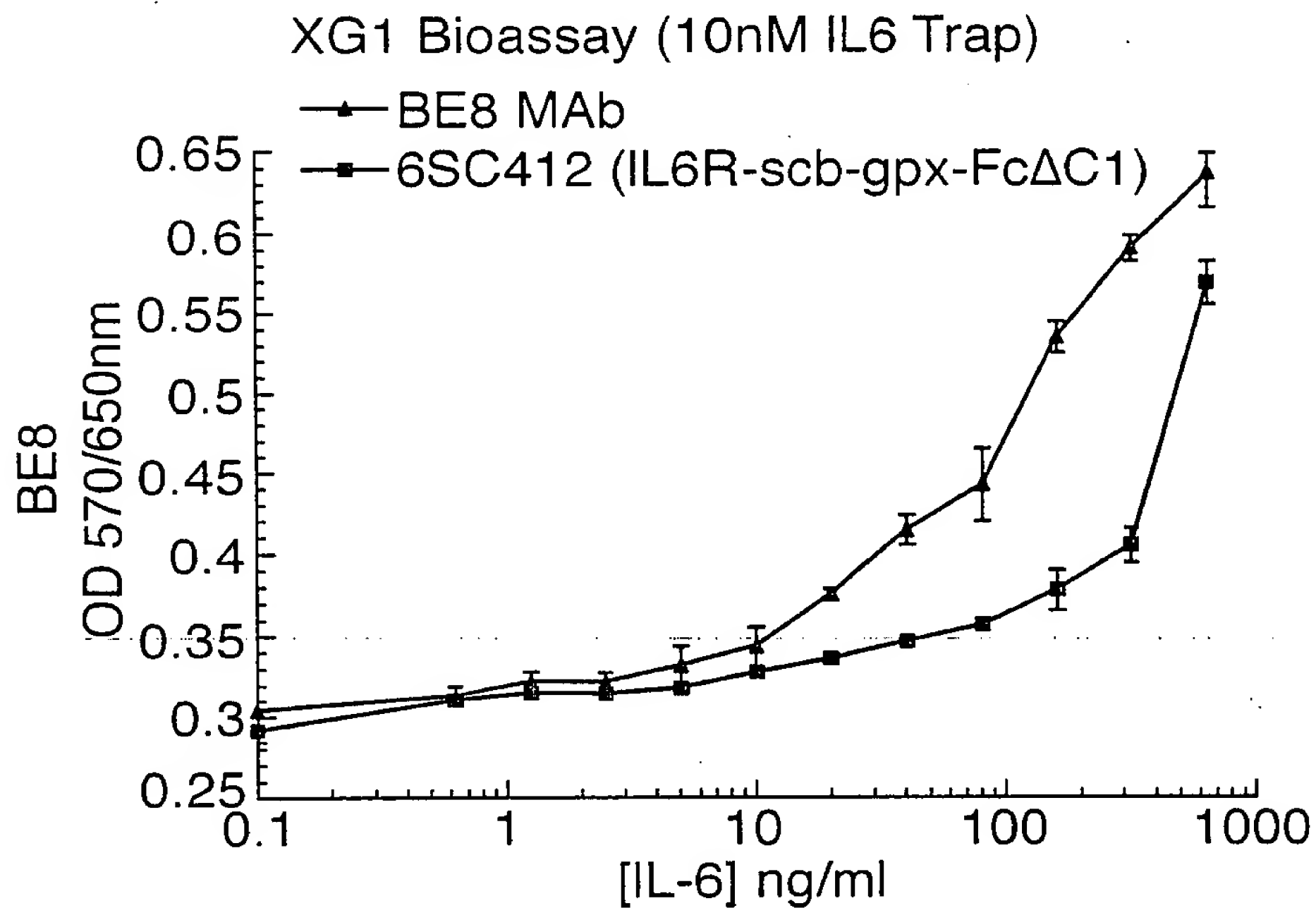
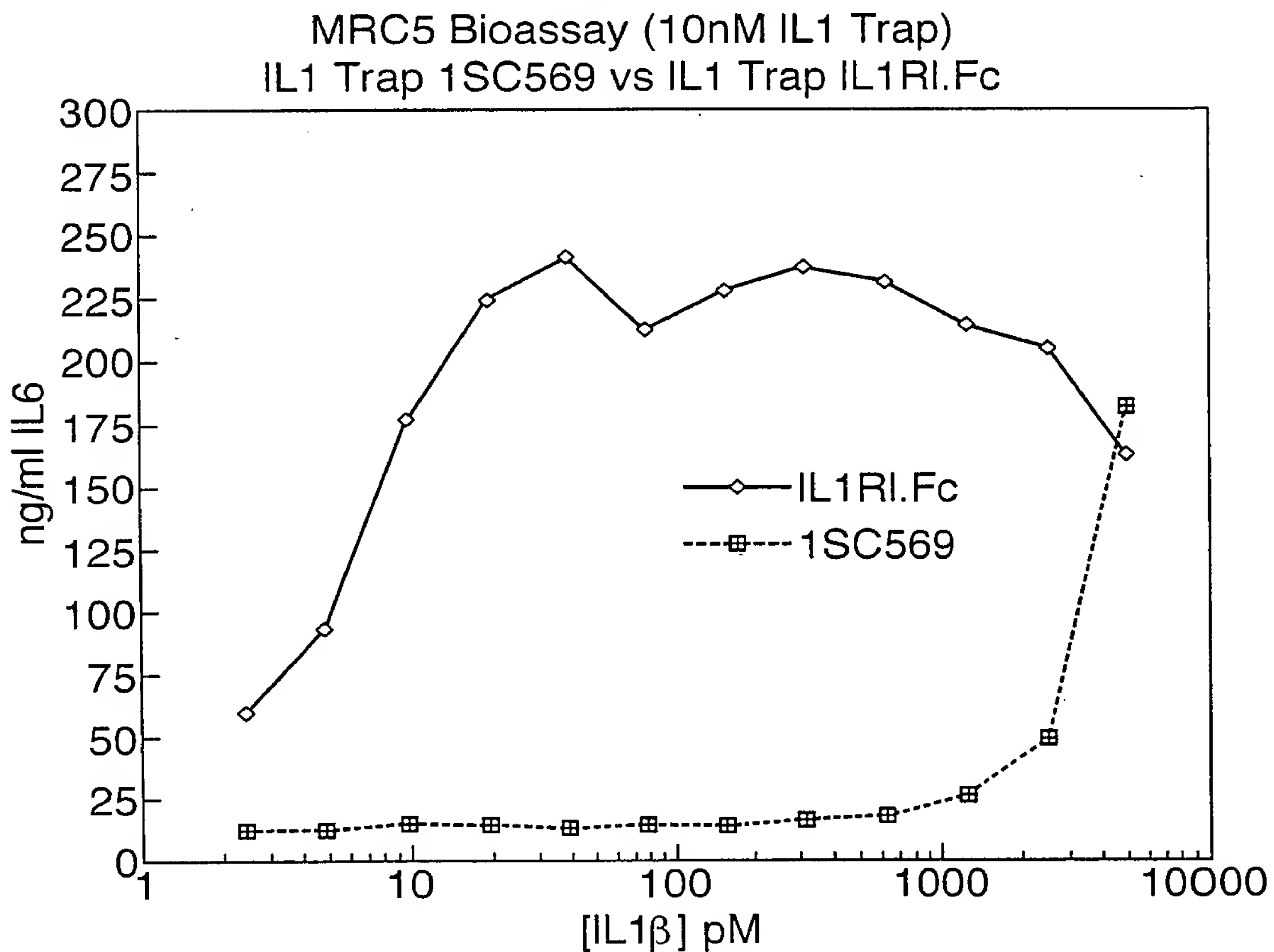


Fig.30.



47/59

Fig.31A.

			10				20				30				40			
	*		*		*		*		*		*		*		*		*	
ATG	GTG	TGG	CTT	TGC	TCT	GGG	CTC	CTG	TTC	CCT	GTG	AGC	TGC	CTG	GTC			
TAC	CAC	ACC	GAA	ACG	AGA	CCC	GAG	GAC	AAG	GGA	CAC	TCG	ACG	GAC	CAG			
Met	Val	Trp	Leu	Cys	Ser	Gly	Leu	Leu	Phe	Pro	Val	Ser	Cys	Leu	Val>			
50			60				70				80				90			
*		*	*		*		*		*		*		*		*		*	
CTG	CTG	CAG	GTG	GCA	AGC	TCT	GGG	AAC	ATG	AAG	GTC	TTG	CAG	GAG	CCC			
GAC	GAC	GTC	CAC	CGT	TCG	AGA	CCC	TTG	TAC	TTC	CAG	AAC	GTC	CTC	GGG			
Leu	Leu	Gln	Val	Ala	Ser	Ser	Gly	Asn	Met	Lys	Val	Leu	Gln	Glu	Pro>			
100			110				120				130				140			
*		*	*		*		*		*		*		*		*		*	
ACC	TGC	GTC	TCC	GAC	TAC	ATG	AGC	ATC	TCT	ACT	TGC	GAG	TGG	AAG	ATG			
TGG	ACG	CAG	AGG	CTG	ATG	TAC	TCG	TAG	AGA	TGA	ACG	CTC	ACC	TTC	TAC			
Thr	Cys	Val	Ser	Asp	Tyr	Met	Ser	Ile	Ser	Thr	Cys	Glu	Trp	Lys	Met>			
150			160				170				180				190			
*	*		*		*		*		*		*		*		*		*	
AAT	GGT	CCC	ACC	AAT	TGC	AGC	ACC	GAG	CTC	CGC	CTG	TTG	TAC	CAG	CTG			
TTA	CCA	GGG	TGG	TTA	ACG	TCG	TGG	CTC	GAG	GCG	GAC	AAC	ATG	GTC	GAC			
Asn	Gly	Pro	Thr	Asn	Cys	Ser	Thr	Glu	Leu	Arg	Leu	Leu	Tyr	Gln	Leu>			
200			210				220				230				240			
*	*		*		*		*		*		*		*		*		*	
GTT	TTT	CTG	CTC	TCC	GAA	GCC	CAC	ACG	TGT	ATC	CCT	GAG	AAC	AAC	GGA			
CAA	AAA	GAC	GAG	AGG	CTT	CGG	GTG	TGC	ACA	TAG	GGA	CTC	TTG	TTG	CCT			
Val	Phe	Leu	Leu	Ser	Glu	Ala	His	Thr	Cys	Ile	Pro	Glu	Asn	Asn	Gly>			
250			260				270				280							
*	*		*		*		*		*		*		*		*		*	
GGC	GCG	GGG	TGC	GTG	TGC	CAC	CTG	CTC	ATG	GAT	GAC	GTG	GTC	AGT	GCG			
CCG	CGC	CCC	ACG	CAC	ACG	GTG	GAC	GAG	TAC	CTA	CTG	CAC	CAG	TCA	CGC			
Gly	Ala	Gly	Cys	Val	Cys	His	Leu	Leu	Met	Asp	Asp	Val	Val	Ser	Ala>			
290			300				310				320				330			
*	*		*		*		*		*		*		*		*		*	
GAT	AAC	TAT	ACA	CTG	GAC	CTG	TGG	GCT	GGG	CAG	CAG	CTG	CTG	TGG	AAG			
CTA	TTG	ATA	TGT	GAC	CTG	GAC	ACC	CGA	CCC	GTC	GTC	GAC	GAC	ACC	TTC			
Asp	Asn	Tyr	Thr	Leu	Asp	Leu	Trp	Ala	Gly	Gln	Gln	Leu	Leu	Trp	Lys>			
340			350				360				370				380			
*	*		*		*		*		*		*		*		*		*	
GGC	TCC	TTC	AAG	CCC	AGC	GAG	CAT	GTG	AAA	CCC	AGG	GCC	CCA	GGA	AAC			
CCG	AGG	AAG	TTC	GGG	TCG	CTC	GTA	CAC	TTT	GGG	TCC	CGG	GGT	CCT	TTG			
Gly	Ser	Phe	Lys	Pro	Ser	Glu	His	Val	Lys	Pro	Arg	Ala	Pro	Gly	Asn>			

48/59

Fig.31B.

390			400			410			420			430			
*	*	*	*	*	*	*	*	*	*	*	*	*	*		
CTG	ACA	GTT	CAC	ACC	AAT	GTC	TCC	GAC	ACT	CTG	CTG	CTG	ACC	TGG	AGC
GAC	TGT	CAA	GTG	TGG	TTA	CAG	AGG	CTG	TGA	GAC	GAC	GAC	TGG	ACC	TCG
Leu	Thr	Val	His	Thr	Asn	Val	Ser	Asp	Thr	Leu	Leu	Leu	Thr	Trp	Ser>
440			450			460			470			480			
*	*	*	*	*	*	*	*	*	*	*	*	*	*		
AAC	CCG	TAT	CCC	CCT	GAC	AAT	TAC	CTG	TAT	AAT	CAT	CTC	ACC	TAT	GCA
TTG	GGC	ATA	GGG	GGA	CTG	TTA	ATG	GAC	ATA	TTA	GTA	GAG	TGG	ATA	CGT
Asn	Pro	Tyr	Pro	Pro	Asp	Asn	Tyr	Leu	Tyr	Asn	His	Leu	Thr	Tyr	Ala>
490			500			510			520						
*	*	*	*	*	*	*	*	*	*	*	*	*	*		
GTC	AAC	ATT	TGG	AGT	GAA	AAC	GAC	CCG	GCA	GAT	TTC	AGA	ATC	TAT	AAC
CAG	TTG	TAA	ACC	TCA	CTT	TTG	CTG	GGC	CGT	CTA	AAG	TCT	TAG	ATA	TTG
Val	Asn	Ile	Trp	Ser	Glu	Asn	Asp	Pro	Ala	Asp	Phe	Arg	Ile	Tyr	Asn>
530			540			550			560			570			
*	*	*	*	*	*	*	*	*	*	*	*	*	*		
GTG	ACC	TAC	CTA	GAA	CCC	TCC	CTC	CGC	ATC	GCA	GCC	AGC	ACC	CTG	AAG
CAC	TGG	ATG	GAT	CTT	GGG	AGG	GAG	GCG	TAG	CGT	CGG	TCG	TGG	GAC	TTC
Val	Thr	Tyr	Leu	Glu	Pro	Ser	Leu	Arg	Ile	Ala	Ala	Ser	Thr	Leu	Lys>
580			590			600			610			620			
*	*	*	*	*	*	*	*	*	*	*	*	*	*		
TCT	GGG	ATT	TCC	TAC	AGG	GCA	CGG	GTG	AGG	GCC	TGG	GCT	CAG	AGC	TAT
AGA	CCC	TAA	AGG	ATG	TCC	CGT	GCC	CAC	TCC	CGG	ACC	CGA	GTC	TCG	ATA
Ser	Gly	Ile	Ser	Tyr	Arg	Ala	Arg	Val	Arg	Ala	Trp	Ala	Gln	Ser	Tyr>
630			640			650			660			670			
*	*	*	*	*	*	*	*	*	*	*	*	*	*		
AAC	ACC	ACC	TGG	AGT	GAG	TGG	AGC	CCC	AGC	ACC	AAG	TGG	CAC	AAC	TCC
TTG	TGG	TGG	ACC	TCA	CTC	ACC	TCG	GGG	TCG	TGG	TTC	ACC	GTG	TTG	AGG
Asn	Thr	Thr	Trp	Ser	Glu	Trp	Ser	Pro	Ser	Thr	Lys	Trp	His	Asn	Ser>
680			690			700			710			720			
*	*	*	*	*	*	*	*	*	*	*	*	*	*		
TAC	AGG	GAG	CCC	TTC	GAG	CAG	TCC	GGT	GGG	GGC	GGG	GGC	GCC	GCG	CCT
ATG	TCC	CTC	GGG	AAG	CTC	GTC	AGG	CCA	CCC	CCG	CCC	CCG	CGG	CGC	GGA
Tyr	Arg	Glu	Pro	Phe	Glu	Gln	Ser	Gly	Gly	Gly	Gly	Gly	Ala	Ala	Pro>
730			740			750			760						
*	*	*	*	*	*	*	*	*	*	*	*	*	*		
ACG	GAA	ACT	CAG	CCA	CCT	GTG	ACA	AAT	TTG	AGT	GTC	TCT	GTT	GAA	AAC
TGC	CTT	TGA	GTC	GGT	GGA	CAC	TGT	TTA	AAC	TCA	CAG	AGA	CAA	CTT	TTG
Thr	Glu	Thr	Gln	Pro	Pro	Val	Thr	Asn	Leu	Ser	Val	Ser	Val	Glu	Asn>

49/59

Fig.31C.

770 780 790 800 810
* * * * * * *
CTC TGC ACA GTA ATA TGG ACA TGG AAT CCA CCC GAG GGA GCC AGC TCA
GAG ACG TGT CAT TAT ACC TGT ACC TTA GGT GGG CTC CCT CGG TCG AGT
Leu Cys Thr Val Ile Trp Thr Trp Asn Pro Pro Glu Gly Ala Ser Ser>

820 830 840 850 860
* * * * * * *
AAT TGT AGT CTA TGG TAT TTT AGT CAT TTT GGC GAC AAA CAA GAT AAG
TTA ACA TCA GAT ACC ATA AAA TCA GTA AAA CCG CTG TTT GTT CTA TTC
Asn Cys Ser Leu Trp Tyr Phe Ser His Phe Gly Asp Lys Gln Asp Lys>

870 880 890 900 910
* * * * * * *
AAA ATA GCT CCG GAA ACT CGT CGT TCA ATA GAA GTA CCC CTG AAT GAG
TTT TAT CGA GGC CTT TGA GCA GCA AGT TAT CTT CAT GGG GAC TTA CTC
Lys Ile Ala Pro Glu Thr Arg Arg Ser Ile Glu Val Pro Leu Asn Glu>

920 930 940 950 960
* * * * * * *
AGG ATT TGT CTG CAA GTG GGG TCC CAG TGT AGC ACC AAT GAG AGT GAG
TCC TAA ACA GAC GTT CAC CCC AGG GTC ACA TCG TGG TTA CTC TCA CTC
Arg Ile Cys Leu Gln Val Gly Ser Gln Cys Ser Thr Asn Glu Ser Glu>

970 980 990 1000
* * * * * * *
AAG CCT AGC ATT TTG GTT GAA AAA TGC ATC TCA CCC CCA GAA GGT GAT
TTC GGA TCG TAA AAC CAA CTT TTT ACG TAG AGT GGG GGT CTT CCA CTA
Lys Pro Ser Ile Leu Val Glu Lys Cys Ile Ser Pro Pro Glu Gly Asp>

1010 1020 1030 1040 1050
* * * * * * *
CCT GAG TCT GCT GTG ACT GAG CTT CAA TGC ATT TGG CAC AAC CTG AGC
GGA CTC AGA CGA CAC TGA CTC GAA GTT ACG TAA ACC GTG TTG GAC TCG
Pro Glu Ser Ala Val Thr Glu Leu Gln Cys Ile Trp His Asn Leu Ser>

1060 1070 1080 1090 1100
* * * * * * *
TAC ATG AAG TGT TCT TGG CTC CCT GGA AGG AAT ACC AGT CCC GAC ACT
ATG TAC TTC ACA AGA ACC GAG GGA CCT TCC TTA TGG TCA GGG CTG TGA
Tyr Met Lys Cys Ser Trp Leu Pro Gly Arg Asn Thr Ser Pro Asp Thr>

1110 1120 1130 1140 1150
* * * * * * *
AAC TAT ACT CTC TAC TAT TGG CAC AGA AGC CTG GAA AAA ATT CAT CAA
TTG ATA TGA GAG ATG ATA ACC GTG TCT TCG GAC CTT TTT TAA GTA GTT
Asn Tyr Thr Leu Tyr Tyr Trp His Arg Ser Leu Glu Lys Ile His Gln>

50/59

Fig.31D.

1160 1170 1180 1190 1200
* * * * *
TGT GAA AAC ATC TTT AGA GAA GGC CAA TAC TTT GGT TGT TCC TTT GAT
ACA CTT TTG TAG AAA TCT CTT CCG GTT ATG AAA CCA ACA AGG AAA CTA
Cys Glu Asn Ile Phe Arg Glu Gly Gln Tyr Phe Gly Cys Ser Phe Asp>

1210 1220 1230 1240
* * * * *
CTG ACC AAA GTG AAG GAT TCC AGT TTT GAA CAA CAC AGT GTC CAA ATA
GAC TGG TTT CAC TTC CTA AGG TCA AAA CTT GTT GTG TCA CAG GTT TAT
Leu Thr Lys Val Lys Asp Ser Ser Phe Glu Gln His Ser Val Gln Ile>

1250 1260 1270 1280 1290
* * * * *
ATG GTC AAG GAT AAT GCA GGA AAA ATT AAA CCA TCC TTC AAT ATA GTG
TAC CAG TTC CTA TTA CGT CCT TTT TAA TTT GGT AGG AAG TTA TAT CAC
Met Val Lys Asp Asn Ala Gly Lys Ile Lys Pro Ser Phe Asn Ile Val>

1300 1310 1320 1330 1340
* * * * *
CCT TTA ACT TCC CGT GTG AAA CCT GAT CCT CCA CAT ATT AAA AAC CTC
GGA AAT TGA AGG GCA CAC TTT GGA CTA GGA GGT GTA TAA TTT TTG GAG
Pro Leu Thr Ser Arg Val Lys Pro Asp Pro Pro His Ile Lys Asn Leu>

1350 1360 1370 1380 1390
* * * * *
TCC TTC CAC AAT GAT GAC CTA TAT GTG CAA TGG GAG AAT CCA CAG AAT
AGG AAG GTG TTA CTA CTG GAT ATA CAC GTT ACC CTC TTA GGT GTC TTA
Ser Phe His Asn Asp Asp Leu Tyr Val Gln Trp Glu Asn Pro Gln Asn>

1400 1410 1420 1430 1440
* * * * *
TTT ATT AGC AGA TGC CTA TTT TAT GAA GTA GAA GTC AAT AAC AGC CAA
AAA TAA TCG TCT ACG GAT AAA ATA CTT CAT CTT CAG TTA TTG TCG GTT
Phe Ile Ser Arg Cys Leu Phe Tyr Glu Val Glu Val Asn Asn Ser Gln>

1450 1460 1470 1480
* * * * *
ACT GAG ACA CAT AAT GTT TTC TAC GTC CAA GAG GCT AAA TGT GAG AAT
TGA CTC TGT GTA TTA CAA AAG ATG CAG GTT CTC CGA TTT ACA CTC TTA
Thr Glu Thr His Asn Val Phe Tyr Val Gln Glu Ala Lys Cys Glu Asn>

1490 1500 1510 1520 1530
* * * * *
CCA GAA TTT GAG AGA AAT GTG GAG AAT ACA TCT TGT TTC ATG GTC CCT
GGT CTT AAA CTC TCT TTA CAC CTC TTA TGT AGA ACA AAG TAC CAG GGA
Pro Glu Phe Glu Arg Asn Val Glu Asn Thr Ser Cys Phe Met Val Pro>

Fig.31 E.

1540	1550					1560					1570					1580				
*	*		*		*	*	*		*	*	*	*	*	*	*	*				
GGT	GTT	CTT	CCT	GAT	ACT	TTG	AAC	ACA	GTC	AGA	ATA	AGA	GTC	AAA	ACA					
CCA	CAA	GAA	GGA	CTA	TGA	AAC	TTG	TGT	CAG	TCT	TAT	TCT	CAG	TTT	TGT					
Gly	Val	Leu	Pro	Asp	Thr	Leu	Asn	Thr	Val	Arg	Ile	Arg	Val	Lys	Thr>					
1590				1600				1610				1620				1630				
*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*				
AAT	AAG	TTA	TGC	TAT	GAG	GAT	GAC	AAA	CTC	TGG	AGT	AAT	TGG	AGC	CAA					
TTA	TTC	AAT	ACG	ATA	CTC	CTA	CTG	TTT	GAG	ACC	TCA	TTA	ACC	TCG	GTT					
Asn	Lys	Leu	Cys	Tyr	Glu	Asp	Asp	Lys	Leu	Trp	Ser	Asn	Trp	Ser	Gln>					
1640				1650				1660				1670				1680				
*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*				
GAA	ATG	AGT	ATA	GGT	AAG	AAG	CGC	AAT	TCC	ACA	ACC	GGA	GAC	AAA	ACT					
CTT	TAC	TCA	TAT	CCA	TTC	TTC	GCG	TTA	AGG	TGT	TGG	CCT	CTG	TTT	TGA					
Glu	Met	Ser	Ile	Gly	Lys	Lys	Arg	Asn	Ser	Thr	Thr	Gly	Asp	Lys	Thr>					
1690				1700				1710				1720								
*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*				
CAC	ACA	TGC	CCA	CCG	TGC	CCA	GCA	CCT	GAA	CTC	CTG	GGG	GGA	CCG	TCA					
GTG	TGT	ACG	GGT	GGC	ACG	GGT	CGT	GGA	CTT	GAG	GAC	CCC	CCT	GGC	AGT					
His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Leu	Leu	Gly	Gly	Pro	Ser>					
1730	1740		1750				1760				1770									
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*				
GTC	TTC	CTC	TTC	CCC	CCA	AAA	CCC	AAG	GAC	ACC	CTC	ATG	ATC	TCC	CGG					
CAG	AAG	GAG	AAG	GGG	GGT	TTT	GGG	TTC	CTG	TGG	GAG	TAC	TAG	AGG	GCC					
Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg>					
1780			1790			1800			1810			1820								
*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*				
ACC	CCT	GAG	GTC	ACA	TGC	GTG	GTG	GTG	GAC	GTG	AGC	CAC	GAA	GAC	CCT					
TGG	GGA	CTC	CAG	TGT	ACG	CAC	CAC	CAC	CTG	CAC	TCG	GTG	CTT	CTG	GGA					
Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro>					
1830			1840			1850			1860			1870								
*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*				
GAG	GTC	AAG	TTC	AAC	TGG	TAC	GTG	GAC	GGC	GTG	GAG	GTG	CAT	AAT	GCC					
CTC	CAG	TTC	AAG	TTG	ACC	ATG	CAC	CTG	CCG	CAC	CTC	CAC	GTA	TTA	CGG					
Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala>					
1880			1890			1900			1910			1920								
*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*				
AAG	ACA	AAG	CCG	CGG	GAG	GAG	CAG	TAC	AAC	AGC	ACG	TAC	CGT	GTG	GTC					
TTC	TGT	TTC	GGC	GCC	CTC	CTC	GTC	ATG	TTG	TCG	TGC	ATG	GCA	CAC	CAG					
Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val>					

52/59

Fig.31F.

1930				1940				1950				1960			
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AGC	GTC	CTC	ACC	GTC	CTG	CAC	CAG	GAC	TGG	CTG	AAT	GGC	AAG	GAG	TAC
TCG	CAG	GAG	TGG	CAG	GAC	GTG	GTC	CTG	ACC	GAC	TTA	CCG	TTC	CTC	ATG
Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr>
1970				1980				1990				2000			
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AAG	TGC	AAG	GTC	TCC	AAC	AAA	GCC	CTC	CCA	GCC	CCC	ATC	GAG	AAA	ACC
TTC	ACG	TTC	CAG	AGG	TTG	TTT	CGG	GAG	GGT	CGG	GGG	TAG	CTC	TTT	TGG
Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr>
2020				2030				2040				2050			
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
ATC	TCC	AAA	GCC	AAA	GGG	CAG	CCC	CGA	GAA	CCA	CAG	GTG	TAC	ACC	CTG
TAG	AGG	TTT	CGG	TTT	CCC	GTC	GGG	GCT	CTT	GGT	GTC	CAC	ATG	TGG	GAC
Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu>
2070				2080				2090				2100			
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
CCC	CCA	TCC	CGG	GAG	GAG	ATG	ACC	AAG	AAC	CAG	GTC	AGC	CTG	ACC	TGC
GGG	GGT	AGG	GCC	CTC	CTC	TAC	TGG	TTC	TTG	GTC	CAG	TCG	GAC	TGG	ACG
Pro	Pro	Ser	Arg	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys>
2120				2130				2140				2150			
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
CTG	GTC	AAA	GGC	TTC	TAT	CCC	AGC	GAC	ATC	GCC	GTG	GAG	TGG	GAG	AGC
GAC	CAG	TTT	CCG	AAG	ATA	GGG	TCG	CTG	TAG	CGG	CAC	CTC	ACC	CTC	TCG
Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser>
2170				2180				2190				2200			
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AAT	GGG	CAG	CCG	GAG	AAC	AAC	TAC	AAG	ACC	ACG	CCT	CCC	GTG	CTG	GAC
TTA	CCC	GTC	GGC	CTC	TTG	TTG	ATG	TTC	TGG	TGC	GGA	GGG	CAC	GAC	CTG
Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp>
2210				2220				2230				2240			
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
TCC	GAC	GGC	TCC	TTC	TTC	CTC	TAT	AGC	AAG	CTC	ACC	GTG	GAC	AAG	AGC
AGG	CTG	CCG	AGG	AAG	AAG	GAG	ATA	TCG	TTC	GAG	TGG	CAC	CTG	TTC	TCG
Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser>
2260				2270				2280				2290			
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AGG	TGG	CAG	CAG	GGG	AAC	GTC	TTC	TCA	TGC	TCC	GTG	ATG	CAT	GAG	GCT
TCC	ACC	GTC	GTC	CCC	TTG	CAG	AAG	AGT	ACG	AGG	CAC	TAC	GTA	CTC	CGA
Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala>

53/59



Fig.31G.

2310			2320			2330			2340			2350			
*	*		*	*		*	*		*	*		*	*		
CTG	CAC	AAC	CAC	TAC	ACG	CAG	AAG	AGC	CTC	TCC	CTG	TCT	CCG	GGT	AAA
GAC	GTG	TTG	GTG	ATG	TGC	GTC	TTC	TCG	GAG	AGG	GAC	AGA	GGC	CCA	TTT
Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly	Lys>

*
TGA
ACT
***>

54/59

Fig.32A.

10 20 30 40
* * * * *
ATG GTG TGG CCG GCG CGG CTC TGC GGG CTG TGG GCG CTG CTG CTC TGC
TAC CAC ACC GGC CGC GCC GAG ACG CCC GAC ACC CGC GAC GAC GAG ACG
Met Val Trp Pro Ala Arg Leu Cys Gly Leu Trp Ala Leu Leu Leu Cys>

50 60 70 80 90
* * * * *
GCC GGC GGC GGG GGC GGG GGC GGG GGC GCC GCG CCT ACG GAA ACT CAG
CGG CCG CCG CCC CCG CCC CCG CCC CCG CGG CGC GGA TGC CTT TGA GTC
Ala Gly Gly Gly Gly Gly Gly Gly Gly Gly Ala Ala Pro Thr Glu Thr Gln>

100 110 120 130 140
* * * * *
CCA CCT GTG ACA AAT TTG AGT GTC TCT GTT GAA AAC CTC TGC ACA GTA
GGT GGA CAC TGT TTA AAC TCA CAG AGA CAA CTT TTG GAG ACG TGT CAT
Pro Pro Val Thr Asn Leu Ser Val Ser Val Glu Asn Leu Cys Thr Val>

150 160 170 180 190
* * * * *
ATA TGG ACA TGG AAT CCA CCC GAG GGA GCC AGC TCA AAT TGT AGT CTA
TAT ACC TGT ACC TTA GGT GGG CTC CCT CGG TCG AGT TTA ACA TCA GAT
Ile Trp Thr Trp Asn Pro Pro Glu Gly Ala Ser Ser Asn Cys Ser Leu>

200 210 220 230 240
* * * * *
TGG TAT TTT AGT CAT TTT GGC GAC AAA CAA GAT AAG AAA ATA GCT CCG
ACC ATA AAA TCA GTA AAA CCG CTG TTT GTT CTA TTC TTT TAT CGA GGC
Trp Tyr Phe Ser His Phe Gly Asp Lys Gln Asp Lys Lys Ile Ala Pro>

250 260 270 280
* * * * *
GAA ACT CGT CGT TCA ATA GAA GTA CCC CTG AAT GAG AGG ATT TGT CTG
CTT TGA GCA GCA AGT TAT CTT CAT GGG GAC TTA CTC TCC TAA ACA GAC
Glu Thr Arg Arg Ser Ile Glu Val Pro Leu Asn Glu Arg Ile Cys Leu>

290 300 310 320 330
* * * * *
CAA GTG GGG TCC CAG TGT AGC ACC AAT GAG AGT GAG AAG CCT AGC ATT
GTT CAC CCC AGG GTC ACA TCG TGG TTA CTC TCA CTC TTC GGA TCG TAA
Gln Val Gly Ser Gln Cys Ser Thr Asn Glu Ser Glu Lys Pro Ser Ile>

340 350 360 370 380
* * * * *
TTG GTT GAA AAA TGC ATC TCA CCC CCA GAA GGT GAT CCT GAG TCT GCT
AAC CAA CTT TTT ACG TAG AGT GGG GGT CTT CCA CTA GGA CTC AGA CGA
Leu Val Glu Lys Cys Ile Ser Pro Pro Glu Gly Asp Pro Glu Ser Ala>

55/59

Fig.32B.

390 400 410 420 430
* * * * *
GTG ACT GAG CTT CAA TGC ATT TGG CAC AAC CTG AGC TAC ATG AAG TGT
CAC TGA CTC GAA GTT ACG TAA ACC GTG TTG GAC TCG ATG TAC TTC ACA
Val Thr Glu Leu Gln Cys Ile Trp His Asn Leu Ser Tyr Met Lys Cys>

440 450 460 470 480
* * * * *
TCT TGG CTC CCT GGA AGG AAT ACC AGT CCC GAC ACT AAC TAT ACT CTC
AGA ACC GAG GGA CCT TCC TTA TGG TCA GGG CTG TGA TTG ATA TGA GAG
Ser Trp Leu Pro Gly Arg Asn Thr Ser Pro Asp Thr Asn Tyr Thr Leu>

490 500 510 520
* * * * *
TAC TAT TGG CAC AGA AGC CTG GAA AAA ATT CAT CAA TGT GAA AAC ATC
ATG ATA ACC GTG TCT TCG GAC CTT TTT TAA GTA GTT ACA CTT TTG TAG
Tyr Tyr Trp His Arg Ser Leu Glu Lys Ile His Gln Cys Glu Asn Ile>

530 540 550 560 570
* * * * *
TTT AGA GAA GGC CAA TAC TTT GGT TGT TCC TTT GAT CTG ACC AAA GTG
AAA TCT CTT CCG GTT ATG AAA CCA ACA AGG AAA CTA GAC TGG TTT CAC
Phe Arg Glu Gly Gln Tyr Phe Gly Cys Ser Phe Asp Leu Thr Lys Val>

580 590 600 610 620
* * * * *
AAG GAT TCC AGT TTT GAA CAA CAC AGT GTC CAA ATA ATG GTC AAG GAT
TTC CTA AGG TCA AAA CTT GTT GTG TCA CAG GTT TAT TAC CAG TTC CTA
Lys Asp Ser Ser Phe Glu Gln His Ser Val Gln Ile Met Val Lys Asp>

630 640 650 660 670
* * * * *
AAT GCA GGA AAA ATT AAA CCA TCC TTC AAT ATA GTG CCT TTA ACT TCC
TTA CGT CCT TTT TAA TTT GGT AGG AAG TTA TAT CAC GGA AAT TGA AGG
Asn Ala Gly Lys Ile Lys Pro Ser Phe Asn Ile Val Pro Leu Thr Ser>

680 690 700 710 720
* * * * *
CGT GTG AAA CCT GAT CCT CCA CAT ATT AAA AAC CTC TCC TTC CAC AAT
GCA CAC TTT GGA CTA GGA GGT GTA TAA TTT TTG GAG AGG AAG GTG TTA
Arg Val Lys Pro Asp Pro Pro His Ile Lys Asn Leu Ser Phe His Asn>

730 740 750 760
* * * * *
GAT GAC CTA TAT GTG CAA TGG GAG AAT CCA CAG AAT TTT ATT AGC AGA
CTA CTG GAT ATA CAC GTT ACC CTC TTA GGT GTC TTA AAA TAA TCG TCT
Asp Asp Leu Tyr Val Gln Trp Glu Asn Pro Gln Asn Phe Ile Ser Arg>

Fig.32C.

770	780					790					800					810				
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*					
TGC	CTA	TTT	TAT	GAA	GTA	GAA	GTC	AAT	AAC	AGC	CAA	ACT	GAG	ACA	CAT					
ACG	GAT	AAA	ATA	CTT	CAT	CTT	CAG	TTA	TTG	TCG	GTT	TGA	CTC	TGT	GTA					
Cys	Leu	Phe	Tyr	Glu	Val	Glu	Val	Asn	Asn	Ser	Gln	Thr	Glu	Thr	His>					
820			830			840			850			860								
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*					
AAT	GTT	TTC	TAC	GTC	CAA	GAG	GCT	AAA	TGT	GAG	AAT	CCA	GAA	TTT	GAG					
TTA	CAA	AAG	ATG	CAG	GTT	CTC	CGA	TTT	ACA	CTC	TTA	GGT	CTT	AAA	CTC					
Asn	Val	Phe	Tyr	Val	Gln	Glu	Ala	Lys	Cys	Glu	Asn	Pro	Glu	Phe	Glu>					
870			880			890			900			910								
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*					
AGA	AAT	GTG	GAG	AAT	ACA	TCT	TGT	TTC	ATG	GTC	CCT	GGT	GTT	CTT	CCT					
TCT	TTA	CAC	CTC	TTA	TGT	AGA	ACA	AAG	TAC	CAG	GGA	CCA	CAA	GAA	GGA					
Arg	Asn	Val	Glu	Asn	Thr	Ser	Cys	Phe	Met	Val	Pro	Gly	Val	Leu	Pro>					
920			930			940			950			960								
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*					
GAT	ACT	TTG	AAC	ACA	GTC	AGA	ATA	AGA	GTC	AAA	ACA	AAT	AAG	TTA	TGC					
CTA	TGA	AAC	TTG	TGT	CAG	TCT	TAT	TCT	CAG	TTT	TGT	TTA	TTC	AAT	ACG					
Asp	Thr	Leu	Asn	Thr	Val	Arg	Ile	Arg	Val	Lys	Thr	Asn	Lys	Leu	Cys>					
970			980			990			1000											
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*					
TAT	GAG	GAT	GAC	AAA	CTC	TGG	AGT	AAT	TGG	AGC	CAA	GAA	ATG	AGT	ATA					
ATA	CTC	CTA	CTG	TTT	GAG	ACC	TCA	TTA	ACC	TCG	GTT	CTT	TAC	TCA	TAT					
Tyr	Glu	Asp	Asp	Lys	Leu	Trp	Ser	Asn	Trp	Ser	Gln	Glu	Met	Ser	Ile>					
1010			1020			1030			1040			1050								
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*					
GGT	AAG	AAG	CGC	AAT	TCC	ACA	GGC	GCG	CCT	AGT	GGT	GGA	GGT	GGC	CGG					
CCA	TTC	TTC	GCG	TTA	AGG	TGT	CCG	CGC	GGA	TCA	CCA	CCT	CCA	CCG	GCC					
Gly	Lys	Lys	Arg	Asn	Ser	Thr	Gly	Ala	Pro	Ser	Gly	Gly	Gly	Gly	Arg>					
1060			1070			1080			1090			1100								
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*					
CCC	GCA	AGC	TCT	GGG	AAC	ATG	AAG	GTC	TTG	CAG	GAG	CCC	ACC	TGC	GTC					
GGG	CGT	TCG	AGA	CCC	TTG	TAC	TTC	CAG	AAC	GTC	CTC	GGG	TGG	ACG	CAG					
Pro	Ala	Ser	Ser	Gly	Asn	Met	Lys	Val	Leu	Gln	Glu	Pro	Thr	Cys	Val>					
1110			1120			1130			1140			1150								
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*					
TCC	GAC	TAC	ATG	AGC	ATC	TCT	ACT	TGC	GAG	TGG	AAG	ATG	AAT	GGT	CCC					
AGG	CTG	ATG	TAC	TCG	TAG	AGA	TGA	ACG	CTC	ACC	TTC	TAC	TTA	CCA	GGG					
Ser	Asp	Tyr	Met	Ser	Ile	Ser	Thr	Cys	Glu	Trp	Lys	Met	Asn	Gly	Pro>					

57/59

Fig.32D.

1160				1170				1180				1190				1200	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
ACC	AAT	TGC	AGC	ACC	GAG	CTC	CGC	CTG	TTG	TAC	CAG	CTG	GTT	TTT	CTG		
TGG	TTA	ACG	TCG	TGG	CTC	GAG	GCG	GAC	AAC	ATG	GTC	GAC	CAA	AAA	GAC		
Thr	Asn	Cys	Ser	Thr	Glu	Leu	Arg	Leu	Leu	Tyr	Gln	Leu	Val	Phe	Leu>		
1210				1220				1230				1240					
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
CTC	TCC	GAA	GCC	CAC	ACG	TGT	ATC	CCT	GAG	AAC	AAC	GGA	GGC	GCG	GGG		
GAG	AGG	CTT	CGG	GTG	TGC	ACA	TAG	GGA	CTC	TTG	TTG	CCT	CCG	CGC	CCC		
Leu	Ser	Glu	Ala	His	Thr	Cys	Ile	Pro	Glu	Asn	Asn	Gly	Gly	Ala	Gly>		
1250	1260				1270				1280				1290				
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
TGC	GTG	TGC	CAC	CTG	CTC	ATG	GAT	GAC	GTG	GTC	AGT	GCG	GAT	AAC	TAT		
ACG	CAC	ACG	GTG	GAC	GAG	TAC	CTA	CTG	CAC	CAG	TCA	CGC	CTA	TTG	ATA		
Cys	Val	Cys	His	Leu	Leu	Met	Asp	Asp	Val	Val	Ser	Ala	Asp	Asn	Tyr>		
1300				1310				1320				1330				1340	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
ACA	CTG	GAC	CTG	TGG	GCT	GGG	CAG	CAG	CTG	CTG	TGG	AAG	GGC	TCC	TTC		
TGT	GAC	CTG	GAC	ACC	CGA	CCC	GTC	GTC	GAC	GAC	ACC	TTC	CCG	AGG	AAG		
Thr	Leu	Asp	Leu	Trp	Ala	Gly	Gln	Gln	Leu	Leu	Trp	Lys	Gly	Ser	Phe>		
1350				1360				1370				1380				1390	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
AAG	CCC	AGC	GAG	CAT	GTG	AAA	CCC	AGG	GCC	CCA	GGA	AAC	CTG	ACA	GTT		
TTC	GGG	TCG	CTC	GTA	CAC	TTT	GGG	TCC	CGG	GGT	CCT	TTG	GAC	TGT	CAA		
Lys	Pro	Ser	Glu	His	Val	Lys	Pro	Arg	Ala	Pro	Gly	Asn	Leu	Thr	Val>		
1400				1410				1420				1430				1440	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
CAC	ACC	AAT	GTC	TCC	GAC	ACT	CTG	CTG	CTG	ACC	TGG	AGC	AAC	CCG	TAT		
GTG	TGG	TTA	CAG	AGG	CTG	TGA	GAC	GAC	GAC	TGG	ACC	TCG	TTG	GGC	ATA		
His	Thr	Asn	Val	Ser	Asp	Thr	Leu	Leu	Leu	Thr	Trp	Ser	Asn	Pro	Tyr>		
1450				1460				1470				1480					
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
CCC	CCT	GAC	AAT	TAC	CTG	TAT	AAT	CAT	CTC	ACC	TAT	GCA	GTC	AAC	ATT		
GGG	GGA	CTG	TTA	ATG	GAC	ATA	TTA	GTA	GAG	TGG	ATA	CGT	CAG	TTG	TAA		
Pro	Pro	Asp	Asn	Tyr	Leu	Tyr	Asn	His	Leu	Thr	Tyr	Ala	Val	Asn	Ile>		
1490	1500				1510				1520				1530				
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
TGG	AGT	GAA	AAC	GAC	CCG	GCA	GAT	TTC	AGA	ATC	TAT	AAC	GTG	ACC	TAC		
ACC	TCA	CTT	TTG	CTG	GGC	CGT	CTA	AAG	TCT	TAG	ATA	TTG	CAC	TGG	ATG		
Trp	Ser	Glu	Asn	Asp	Pro	Ala	Asp	Phe	Arg	Ile	Tyr	Asn	Val	Thr	Tyr>		

Fig.32E.

1540			1550			1560			1570			1580			
*	*	*	*	*	*	*	*	*	*	*	*	*	*		
CTA	GAA	CCC	TCC	CTC	CGC	ATC	GCA	GCC	AGC	ACC	CTG	AAG	TCT	GGG	ATT
GAT	CTT	GGG	AGG	GAG	GCG	TAG	CGT	CGG	TCG	TGG	GAC	TTC	AGA	CCC	TAA
Leu	Glu	Pro	Ser	Leu	Arg	Ile	Ala	Ala	Ser	Thr	Leu	Lys	Ser	Gly	Ile>
1590			1600			1610			1620			1630			
*	*	*	*	*	*	*	*	*	*	*	*	*	*		
TCC	TAC	AGG	GCA	CGG	GTG	AGG	GCC	TGG	GCT	CAG	TGC	TAT	AAC	ACC	ACC
AGG	ATG	TCC	CGT	GCC	CAC	TCC	CGG	ACC	CGA	GTC	ACG	ATA	TTG	TGG	TGG
Ser	Tyr	Arg	Ala	Arg	Val	Arg	Ala	Trp	Ala	Gln	Cys	Tyr	Asn	Thr	Thr>
1640			1650			1660			1670			1680			
*	*	*	*	*	*	*	*	*	*	*	*	*	*		
TGG	AGT	GAG	TGG	AGC	CCC	AGC	ACC	AAG	TGG	CAC	AAC	TCC	TAC	AGG	GAG
ACC	TCA	CTC	ACC	TCG	GGG	TCG	TGG	TTC	ACC	GTG	TTG	AGG	ATG	TCC	CTC
Trp	Ser	Glu	Trp	Ser	Pro	Ser	Thr	Lys	Trp	His	Asn	Ser	Tyr	Arg	Glu>
1690			1700			1710			1720						
*	*	*	*	*	*	*	*	*	*	*	*	*	*		
CCC	TTC	GAG	CAG	TCC	GGA	GAC	AAA	ACT	CAC	ACA	TGC	CCA	CCG	TGC	CCA
GGG	AAG	CTC	GTC	AGG	CCT	CTG	TTT	TGA	GTG	TGT	ACG	GGT	GGC	ACG	GGT
Pro	Phe	Glu	Gln	Ser	Gly	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	Cys	Pro>
1730			1740			1750			1760			1770			
*	*	*	*	*	*	*	*	*	*	*	*	*	*		
GCA	CCT	GAA	CTC	CTG	GGG	GGA	CCG	TCA	GTC	TTC	CTC	TTC	CCC	CCA	AAA
CGT	GGA	CTT	GAG	GAC	CCC	CCT	GGC	AGT	CAG	AAG	GAG	AAG	GGG	GGT	TTT
Ala	Pro	Glu	Leu	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys>
1780			1790			1800			1810			1820			
*	*	*	*	*	*	*	*	*	*	*	*	*	*		
CCC	AAG	GAC	ACC	CTC	ATG	ATC	TCC	CGG	ACC	CCT	GAG	GTC	ACA	TGC	GTG
GGG	TTC	CTG	TGG	GAG	TAC	TAG	AGG	GCC	TGG	GGA	CTC	CAG	TGT	ACG	CAC
Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val>
1830			1840			1850			1860			1870			
*	*	*	*	*	*	*	*	*	*	*	*	*	*		
GTG	GTG	GAC	GTG	AGC	CAC	GAA	GAC	CCT	GAG	GTC	AAG	TTC	AAC	TGG	TAC
CAC	CAC	CTG	CAC	TCG	GTG	CTT	CTG	GGA	CTC	CAG	TTC	AAG	TTG	ACC	ATG
Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr>
1880			1890			1900			1910			1920			
*	*	*	*	*	*	*	*	*	*	*	*	*	*		
GTG	GAC	GGC	GTG	GAG	GTG	CAT	AAT	GCC	AAG	ACA	AAG	CCG	CGG	GAG	GAG
CAC	CTG	CCG	CAC	CTC	CAC	GTA	TTA	CGG	TTC	TGT	TTC	GGC	GCC	CTC	CTC
Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu>

Fig.32F.

2260			2270			2280			2290			2300			
*		*		*		*		*		*		*			
TAT	AGC	AAG	CTC	ACC	GTG	GAC	AAG	AGC	AGG	TGG	CAG	CAG	GGG	AAC	GTC
ATA	TCG	TTC	GAG	TGG	CAC	CTG	TTC	TCG	TCC	ACC	GTC	GTC	CCC	TTG	CAG
Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val>